March 25, 2026

RADIOLOGY

Ordering Imaging and Making Sense of Images for the Internal Medicine Physician

The Modalities
Utilization
Safety
X-ray
Interpretation

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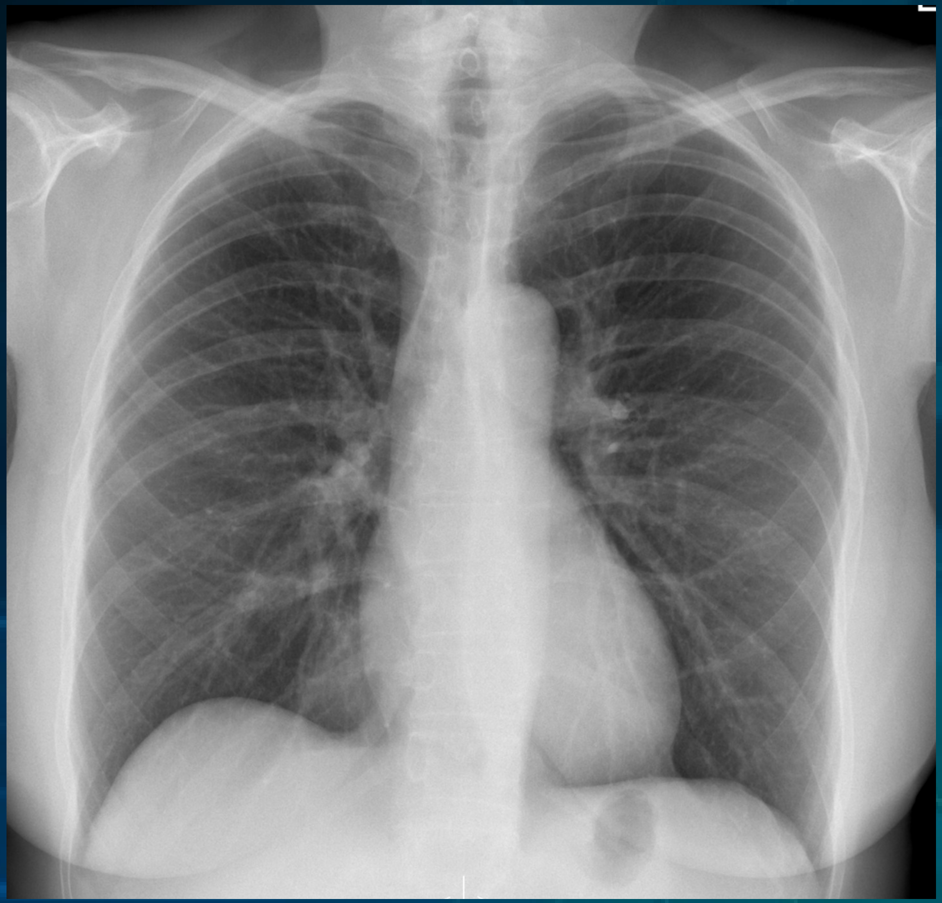
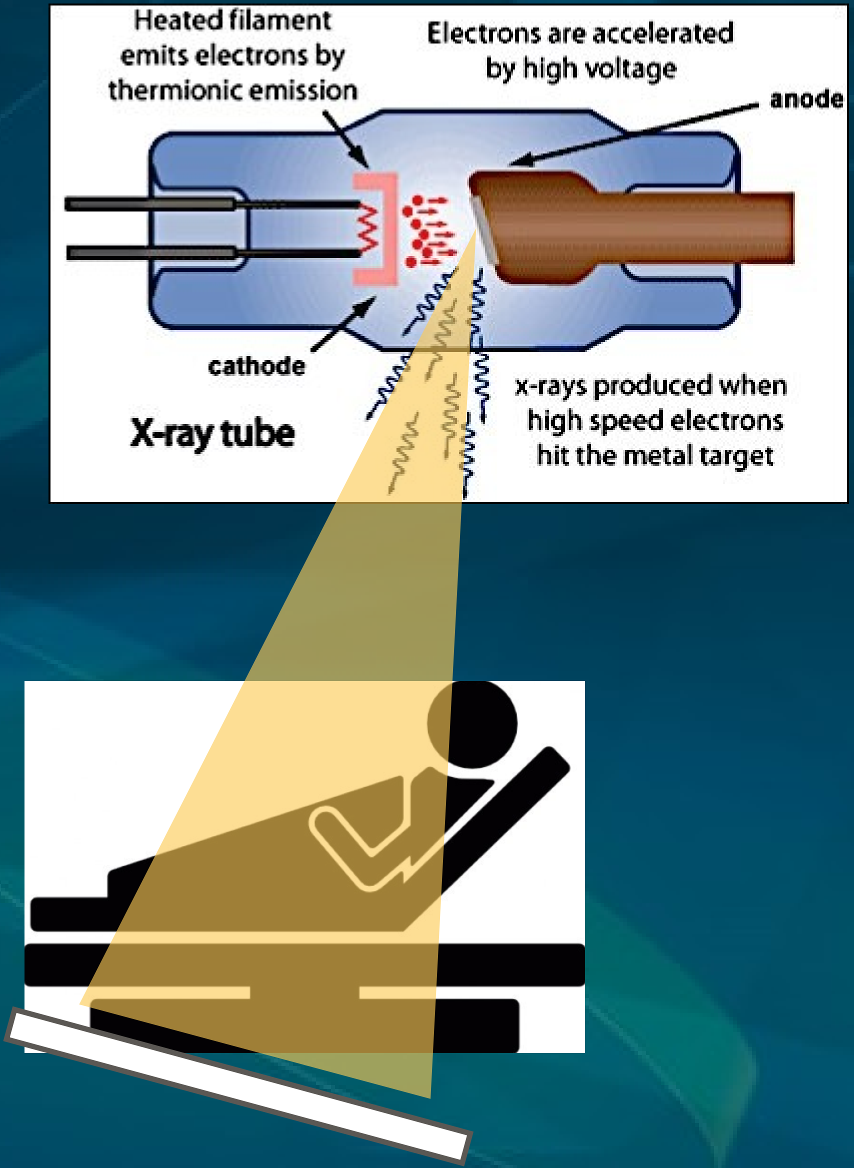
Chair, Radiology, Sarasota Memorial Hospital
President, Radiology Associates of Florida

RADIOLOGY

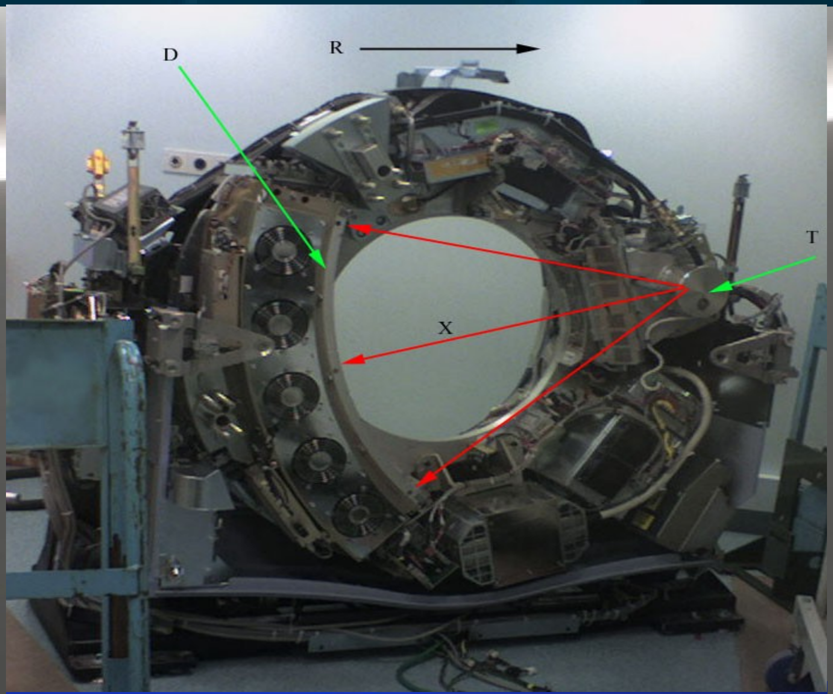
Ordering Imaging and Making Sense of Images for the Internal Medicine Physician

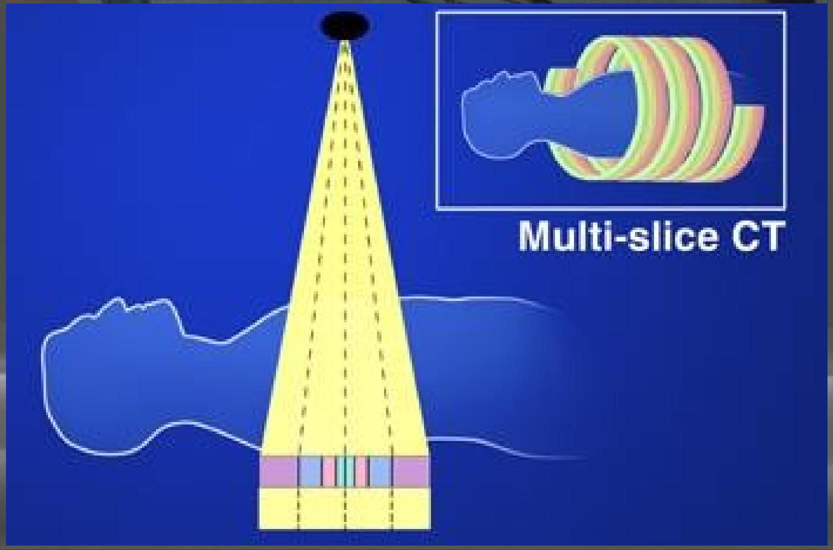
Radiography



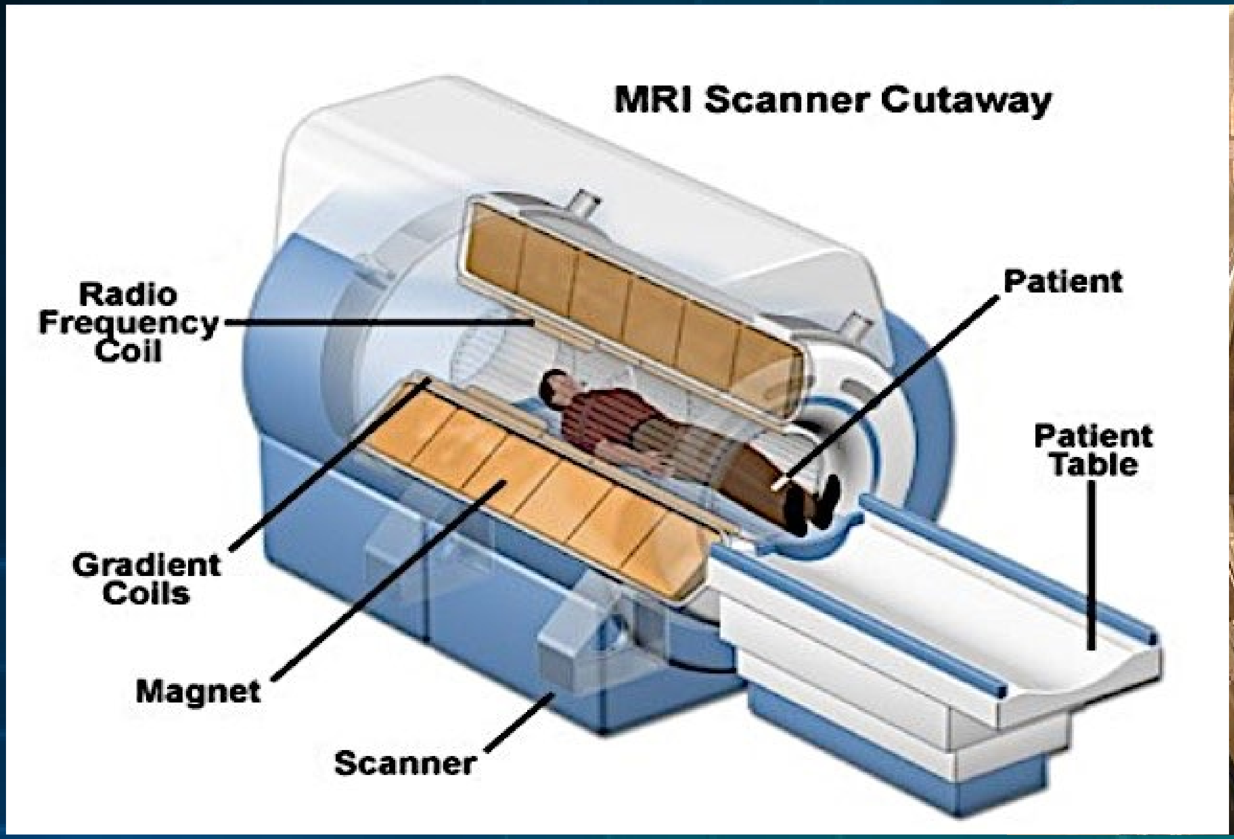

Heated filament emits electrons by thermionic emission
Electrons are accelerated by high voltage
anode
cathode
X-ray tube
x-rays produced when high speed electrons hit the metal target

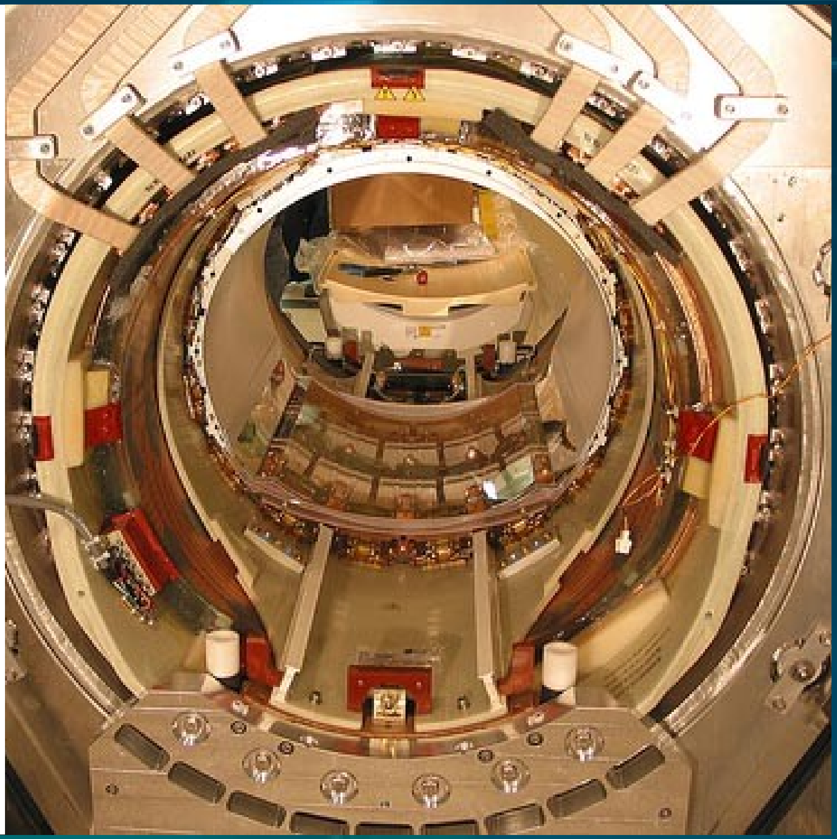
CT




Multi-slice CT

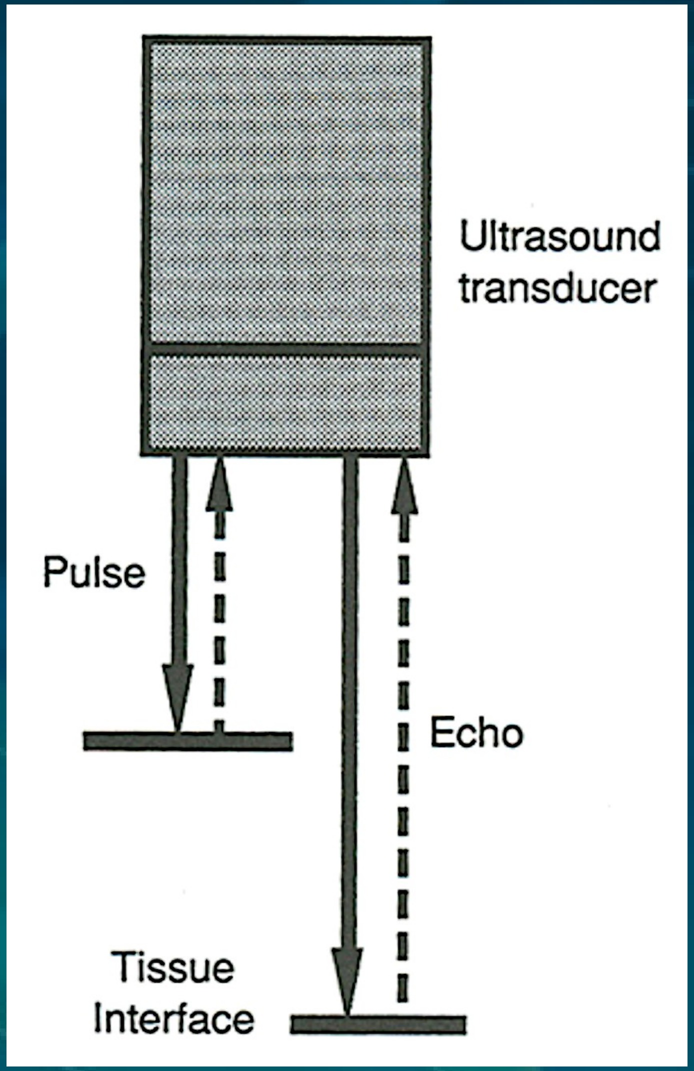
MRI


MRI Scanner Cutaway
Radio Frequency Coil
Patient
Patient Table
Gradient Coils
Magnet
Scanner

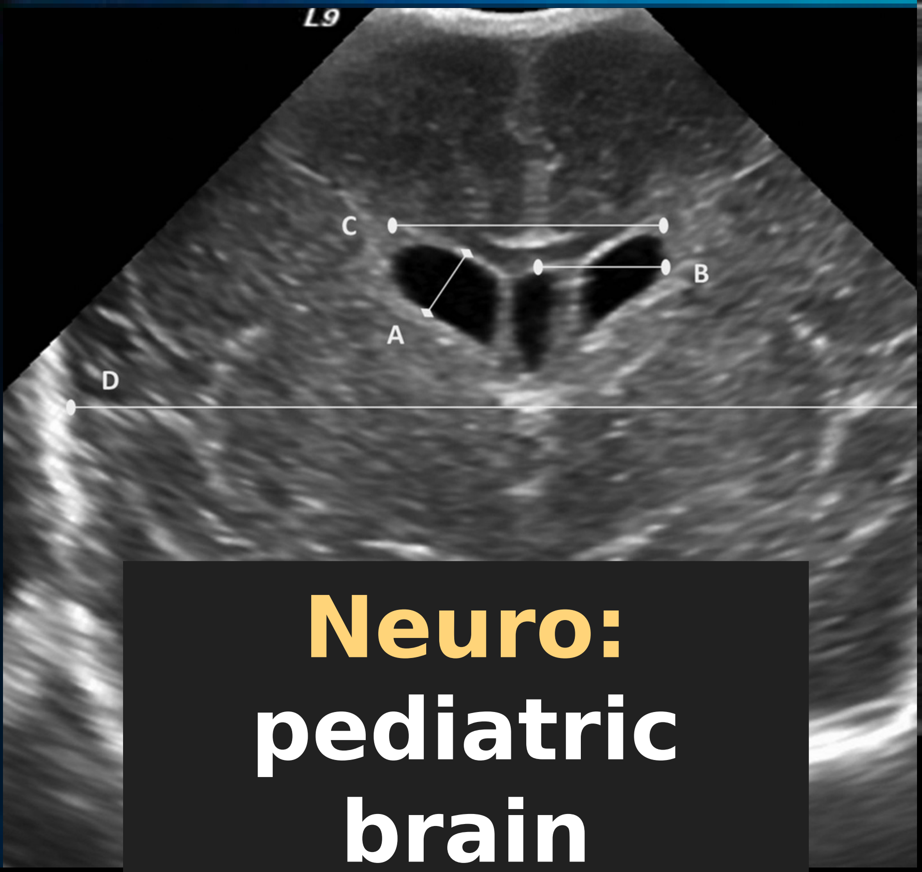


US

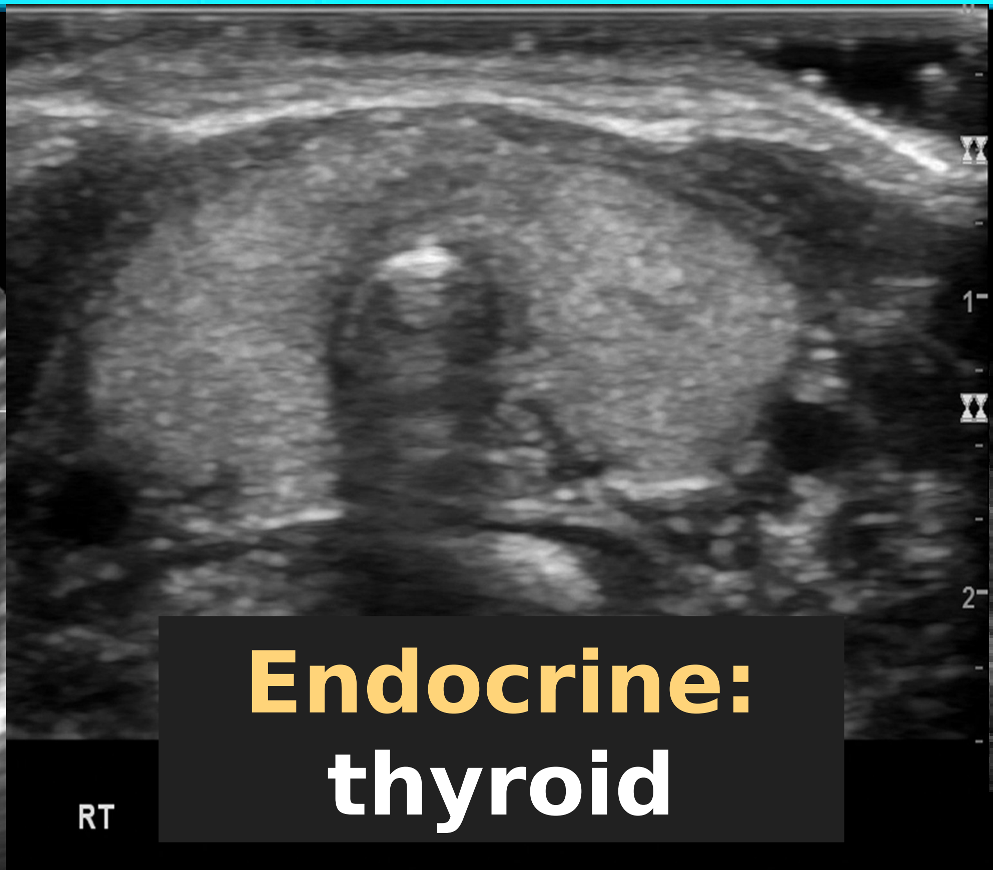
10:25
TIS 1
MI 1
Hz 30
CARD
Presets
Modes


Ultrasound transducer
Pulse
Echo
Tissue Interface

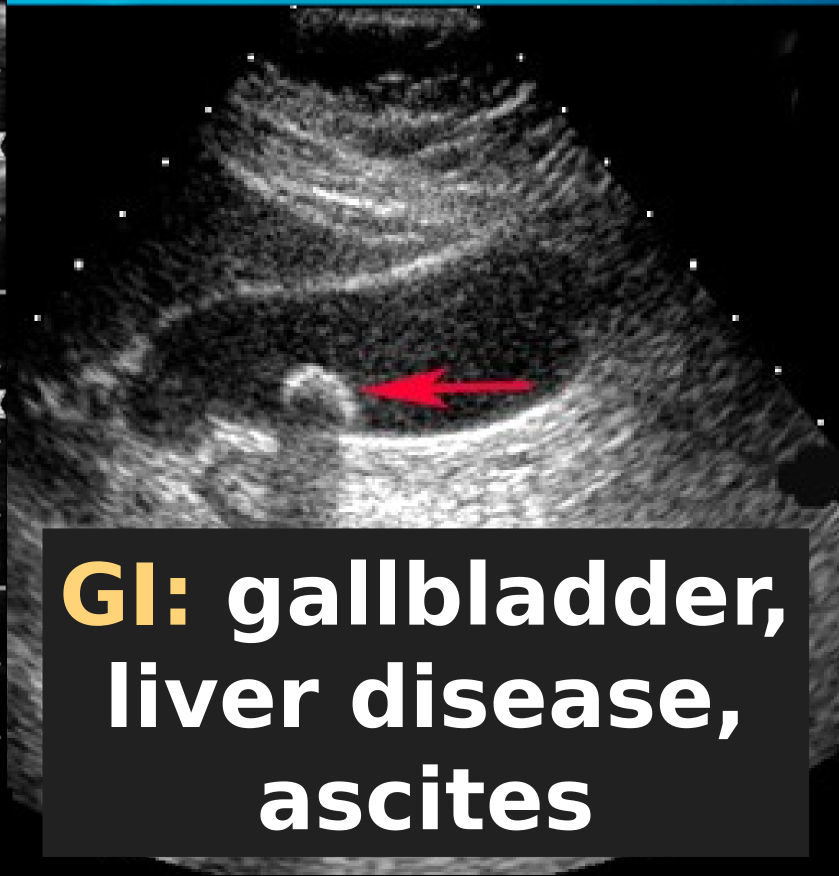
US: Uses



Neuro: pediatric brain



Endocrine: thyroid



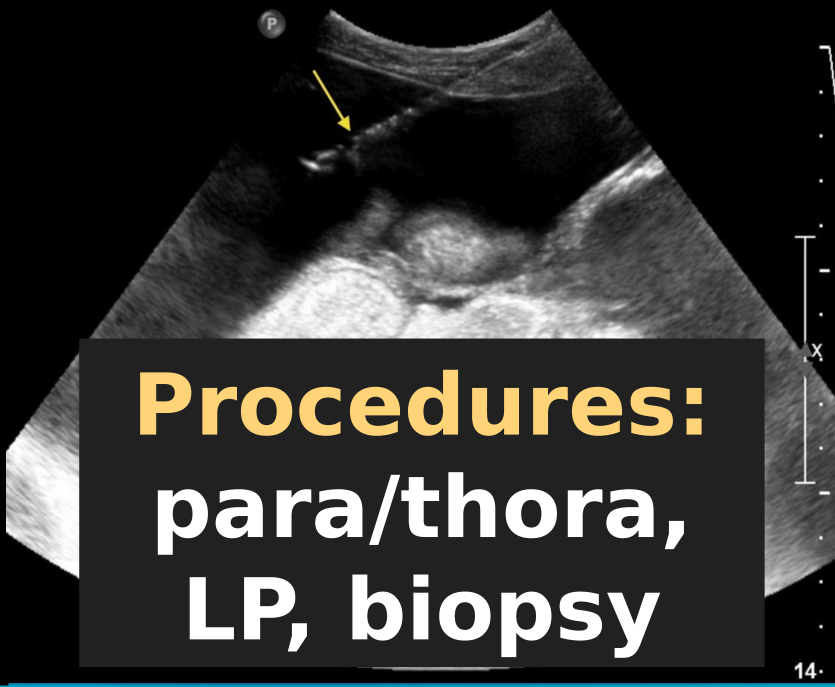
GI: gallbladder, liver disease, ascites

Normal Transvaginal

GU: kidneys, GYN, prostate

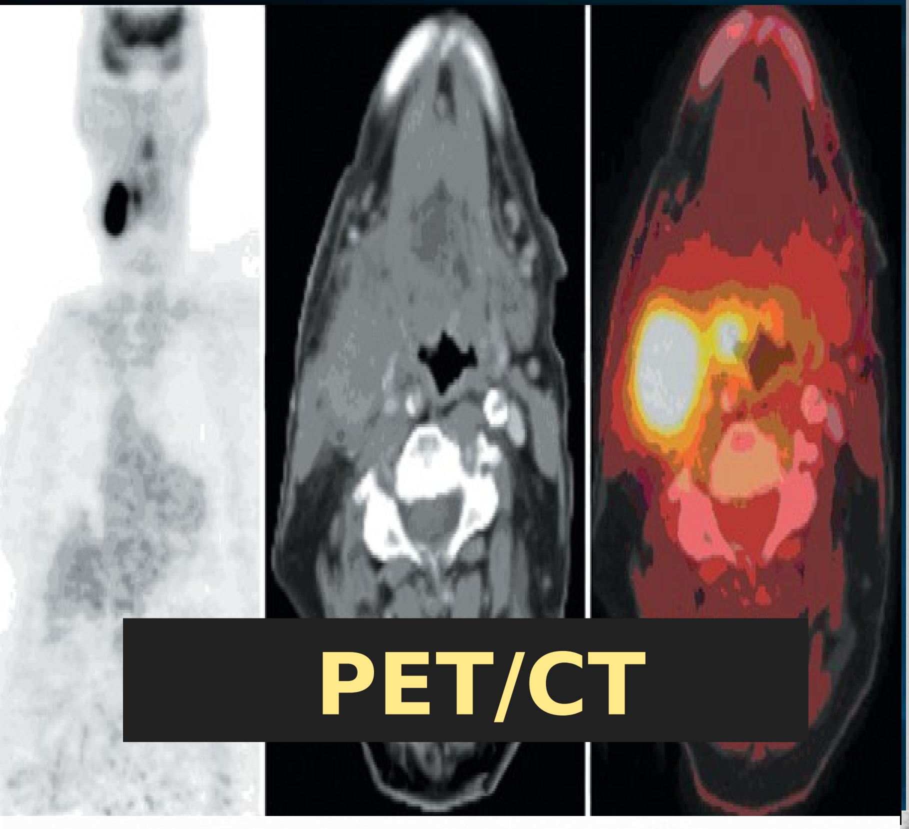
Frq 12.0 MHz
Gn 54
E/A 3/2
Map J/0
D 2.5 cm
DR 78
FR 28 Hz
AO 98 %
XBea m On
BStr + Off

MSK: arthritis, sports injury

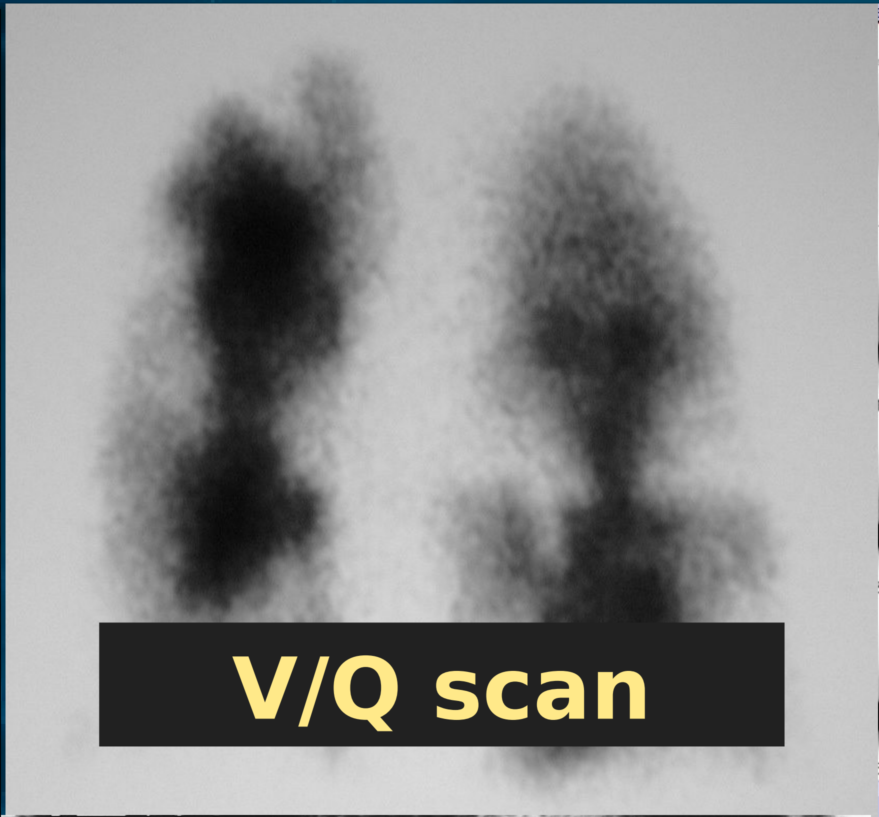


Procedures: para/thora, LP, biopsy

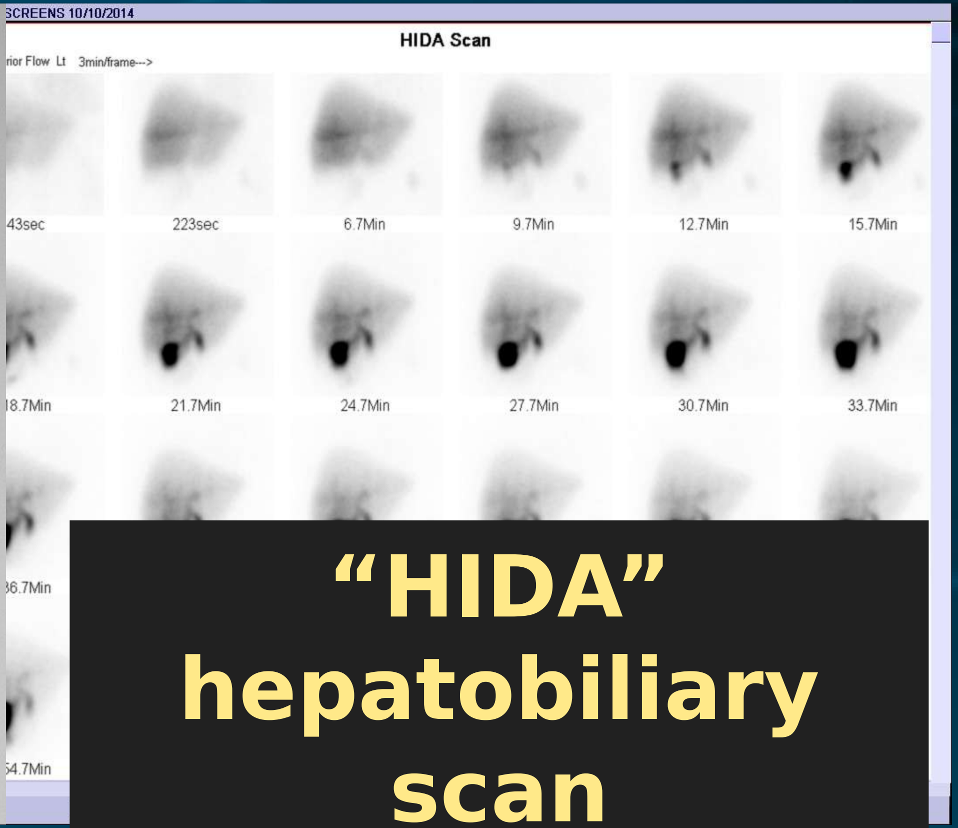
Nuclear Medicine: Uses



PET/CT

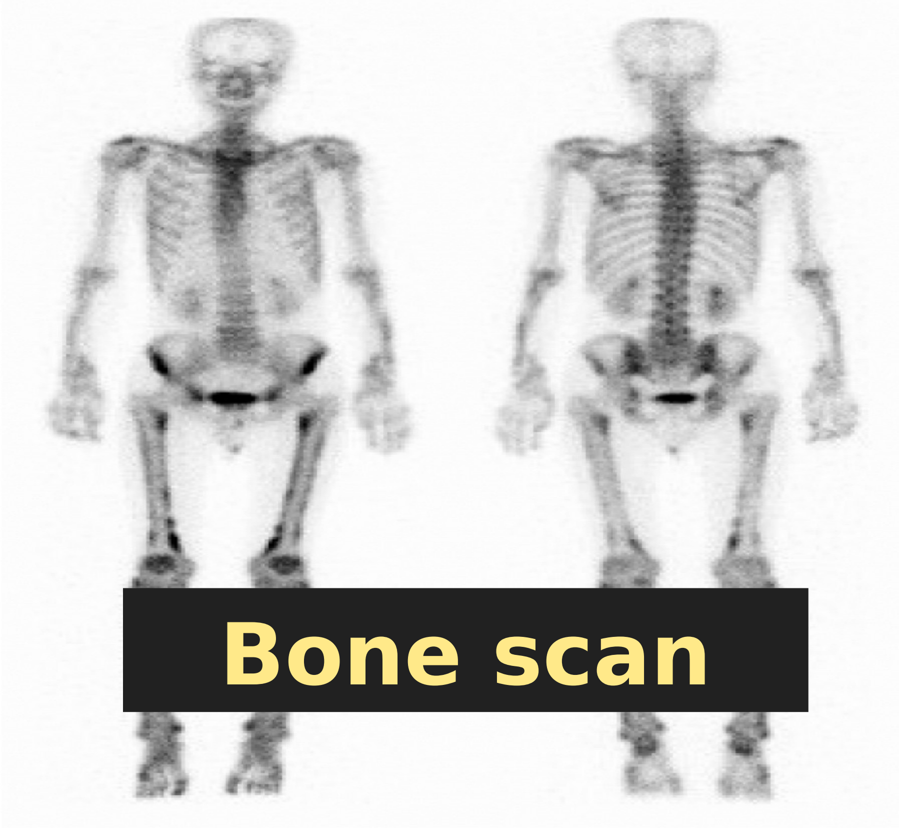


V/Q scan

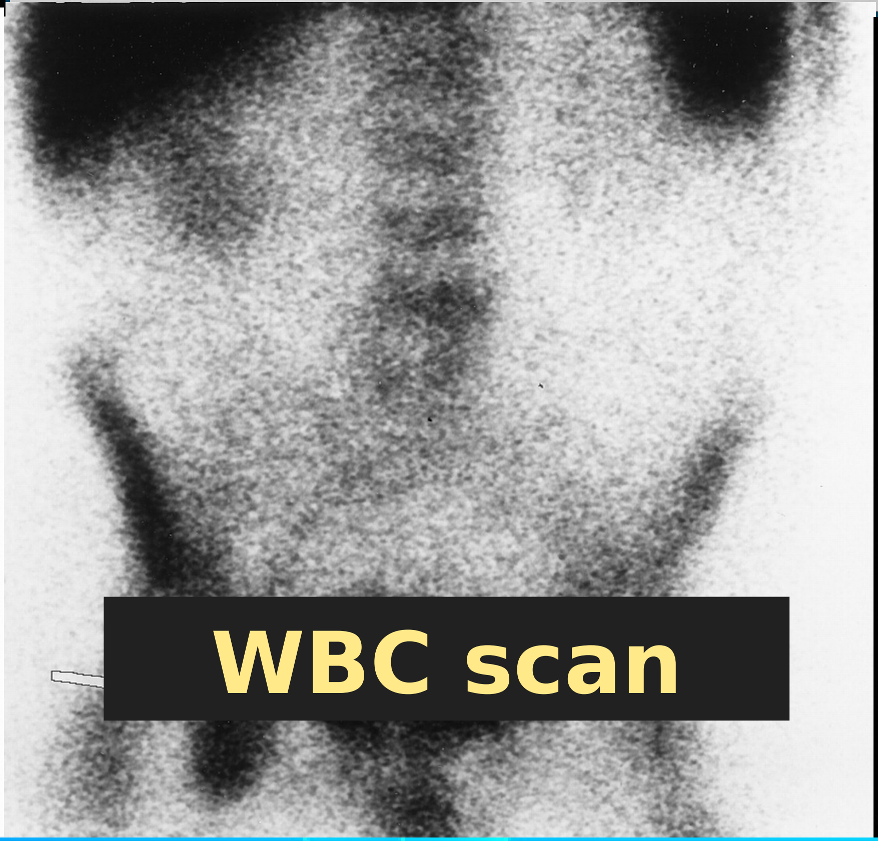


SCREENS 10/10/2014
HIDA Scan
rior Flow Lt 3min/frame-->
43sec
223sec
6.7Min
9.7Min
12.7Min
15.7Min
18.7Min
21.7Min
24.7Min
27.7Min
30.7Min
33.7Min
36.7Min
54.7Min

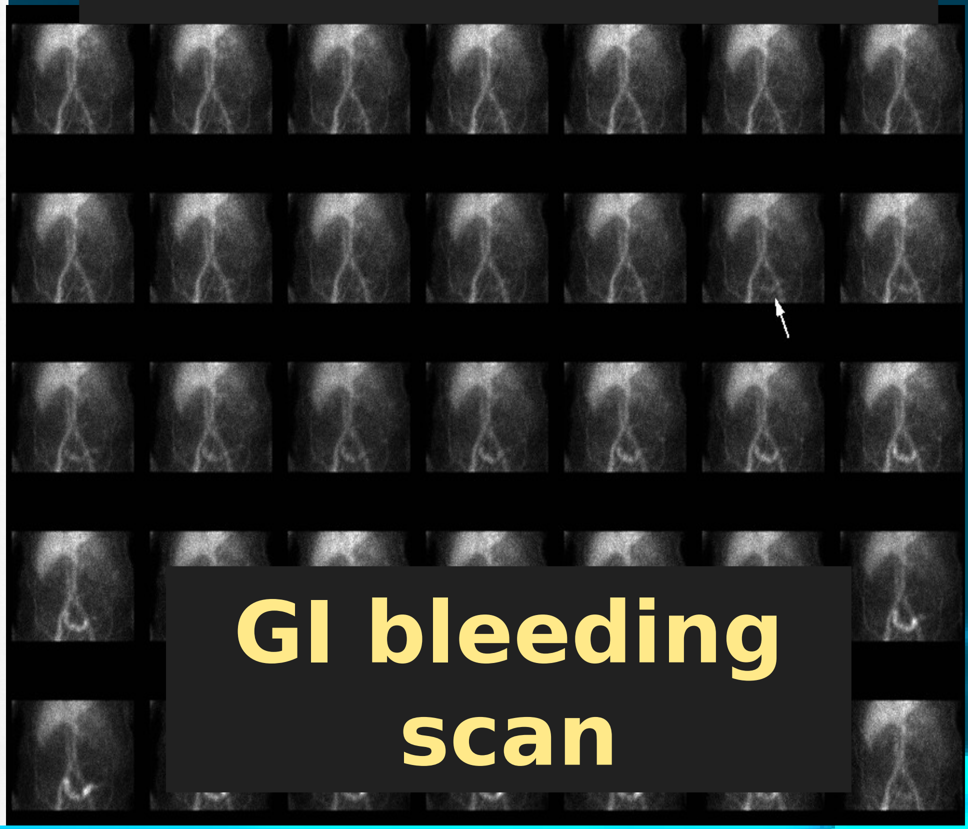
"HIDA" hepatobiliary scan



Bone scan

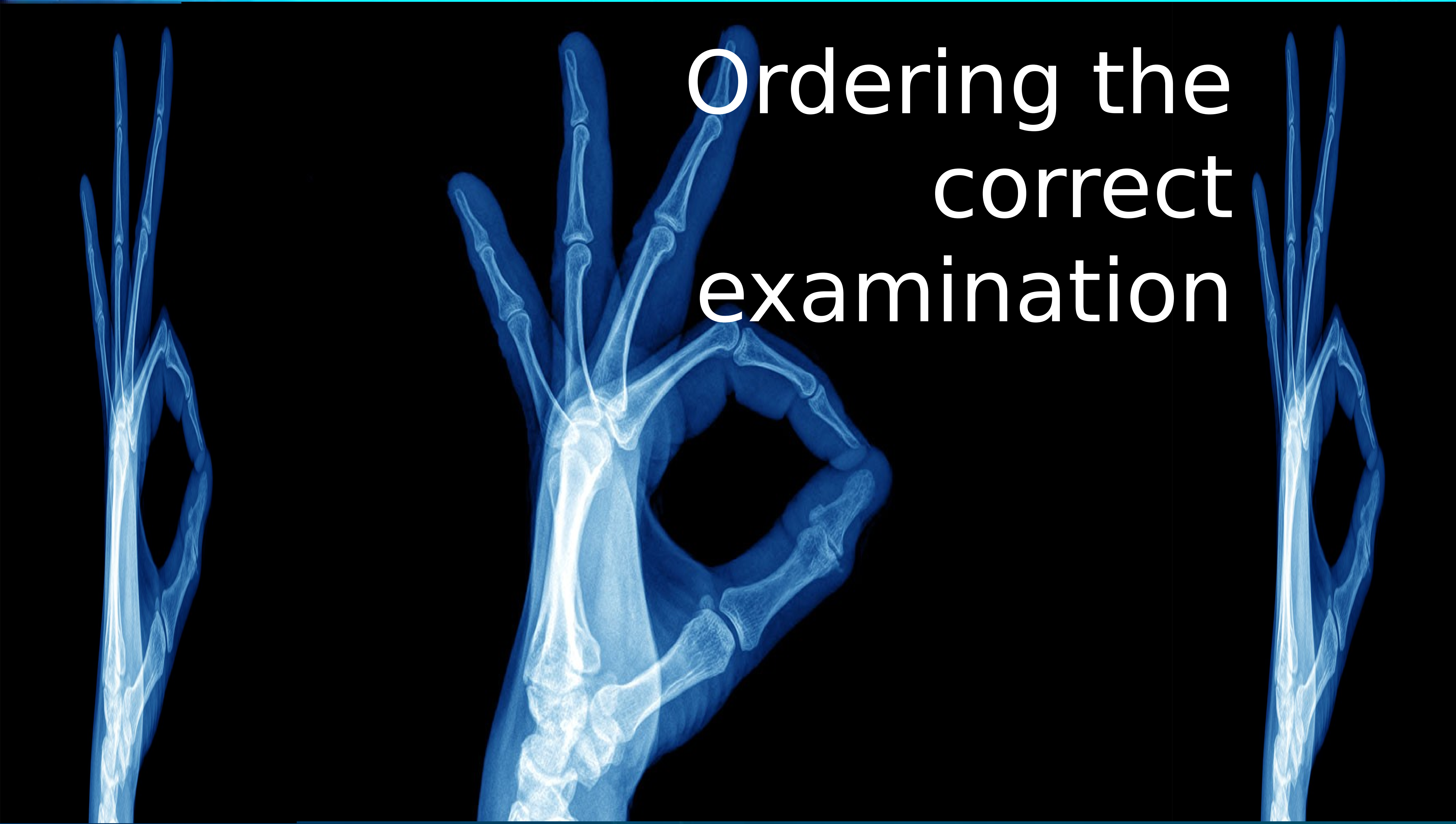


WBC scan



GI bleeding scan

Ordering the correct examination



Appropriate Use: ACR Appropriateness Criteria

ACR Appropriateness Criteria®

Evidence based guidelines for selecting appropriate imaging tests

Developed by expert panels in each imaging subspecialty

A free point of care resource at http://www.acr.org/quality-safety/appropriateness-criteria

Appropriate Use: ACR Appropriateness Criteria

ACR Appropriateness Criteria® Expert Panel Participation

American Academy of Neurology
American Academy of Orthopaedic Surgeons

American Academy of Otolaryngology-Head and N

American Academy of Pediatrics
American Association for the Surgery of Trauma

American Association of Neurological Surgeons / C

American College of Cardiology
American College of Chest Physicians
American College of Emergency Physicians

American Congress of Obstetricians and Gynecolo

American College of Rheumatology

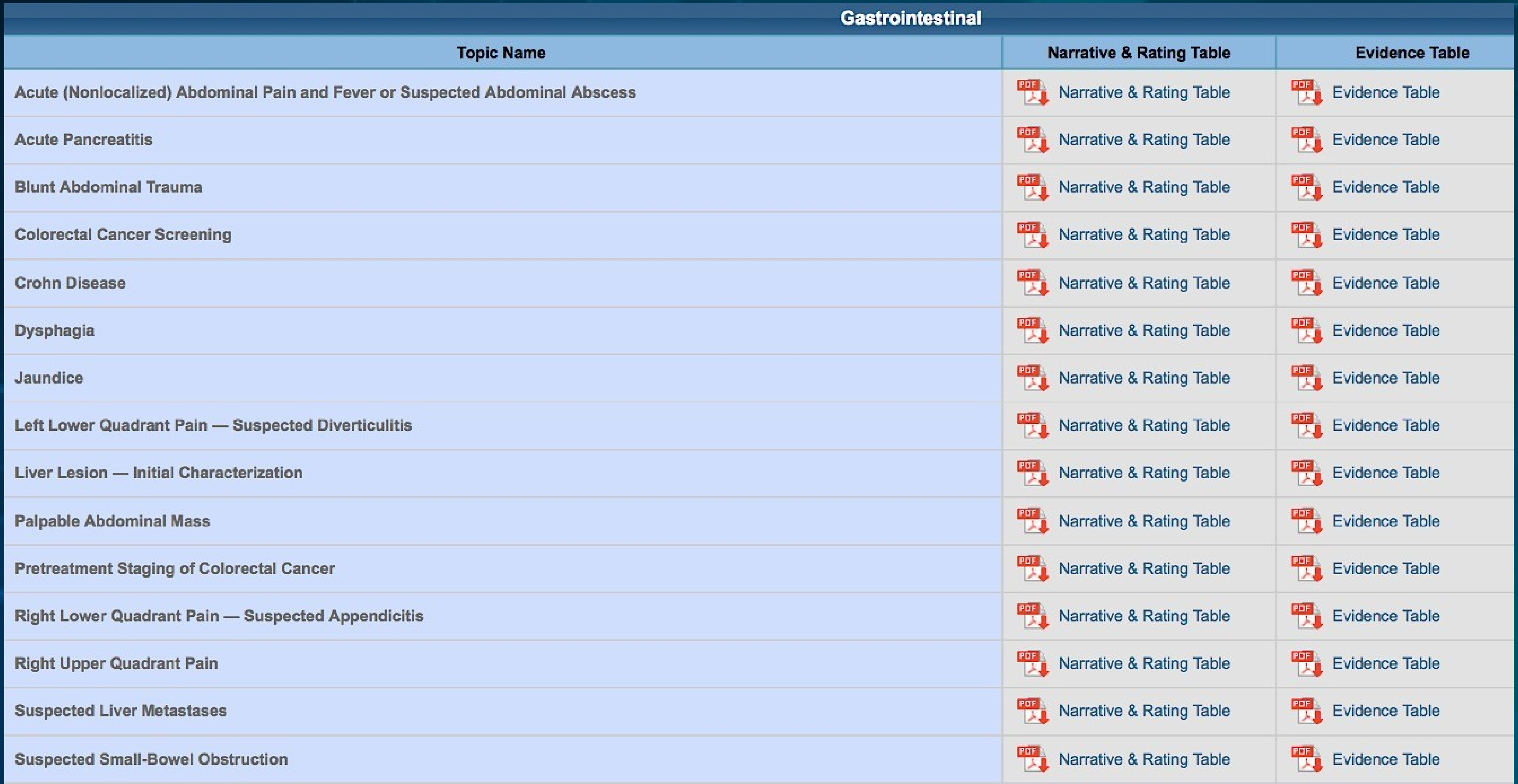
American College of Surgeons
American Gastroenterological Association

American Pediatric Surgical Association
American Society of Clinical Oncology
American Society of Hematology
American Society of Nephrology
American Urological Association
North American Spine Society
Society for Vascular Surgery
Society of Gynecologic Oncologists
Society of Nuclear Medicine and Molecular Imaging

Society of Thoracic Surgeons

Appropriate Use: ACR Appropriateness Criteria

ACR Appropriateness Criteria®



Gastrointestinal		
Topic Name	**Narrative & Rating Table**	**Evidence Table**
Acute (Nonlocalized) Abdominal Pain and Fever or Suspected Abdominal Abscess	Narrative & Rating Table	Evidence Table
Acute Pancreatitis	Narrative & Rating Table	Evidence Table
Blunt Abdominal Trauma	Narrative & Rating Table	Evidence Table
Colorectal Cancer Screening	Narrative & Rating Table	Evidence Table
Crohn Disease	Narrative & Rating Table	Evidence Table
Dysphagia	Narrative & Rating Table	Evidence Table
Jaundice	Narrative & Rating Table	Evidence Table
Left Lower Quadrant Pain — Suspected Diverticulitis	Narrative & Rating Table	Evidence Table
Liver Lesion — Initial Characterization	Narrative & Rating Table	Evidence Table
Palpable Abdominal Mass	Narrative & Rating Table	Evidence Table
Pretreatment Staging of Colorectal Cancer	Narrative & Rating Table	Evidence Table
Right Lower Quadrant Pain — Suspected Appendicitis	Narrative & Rating Table	Evidence Table
Right Upper Quadrant Pain	Narrative & Rating Table	Evidence Table
Suspected Liver Metastases	Narrative & Rating Table	Evidence Table
Suspected Small-Bowel Obstruction	Narrative & Rating Table	Evidence Table

Appropriate Use: ACR Appropriateness Criteria

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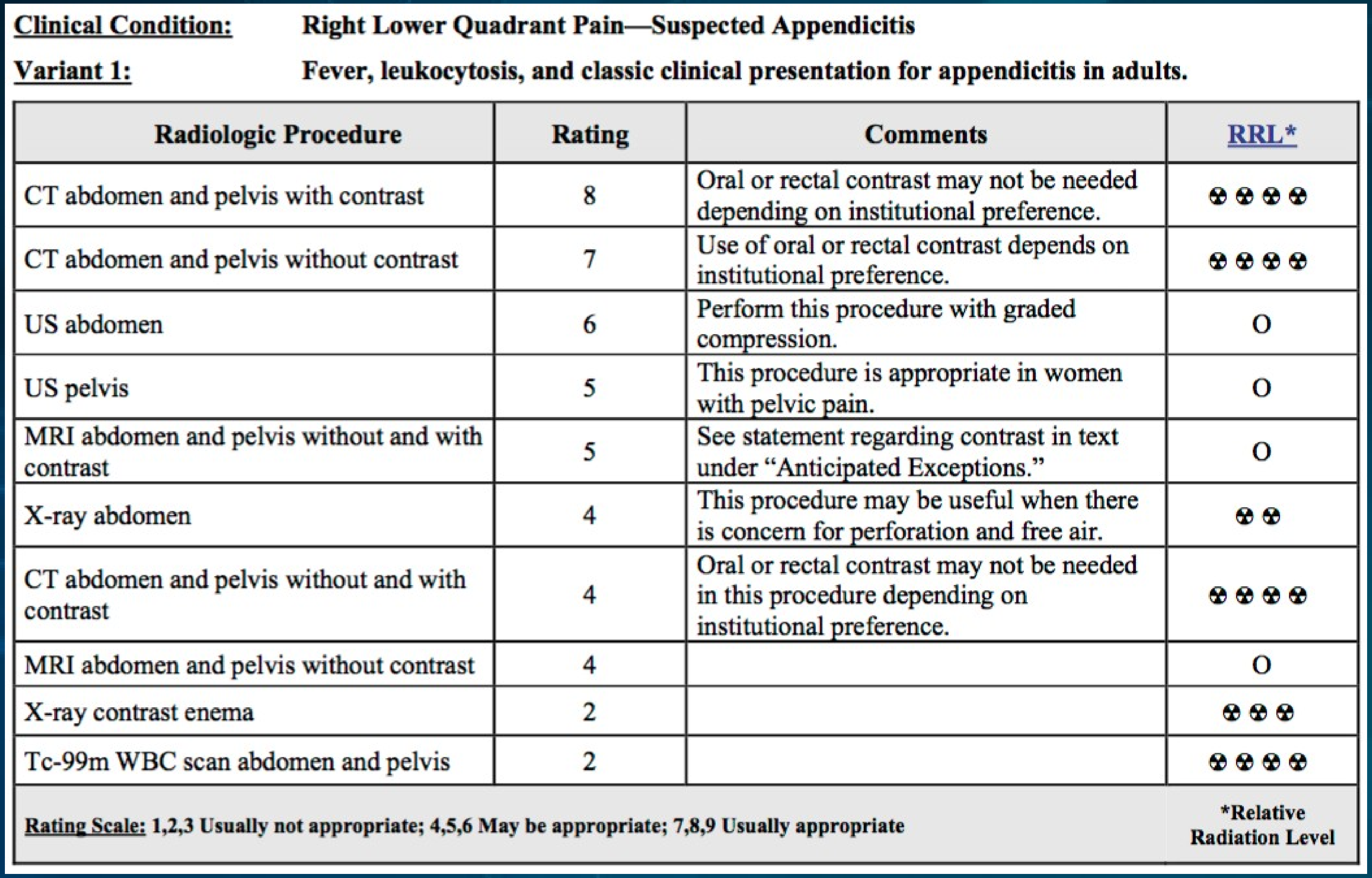


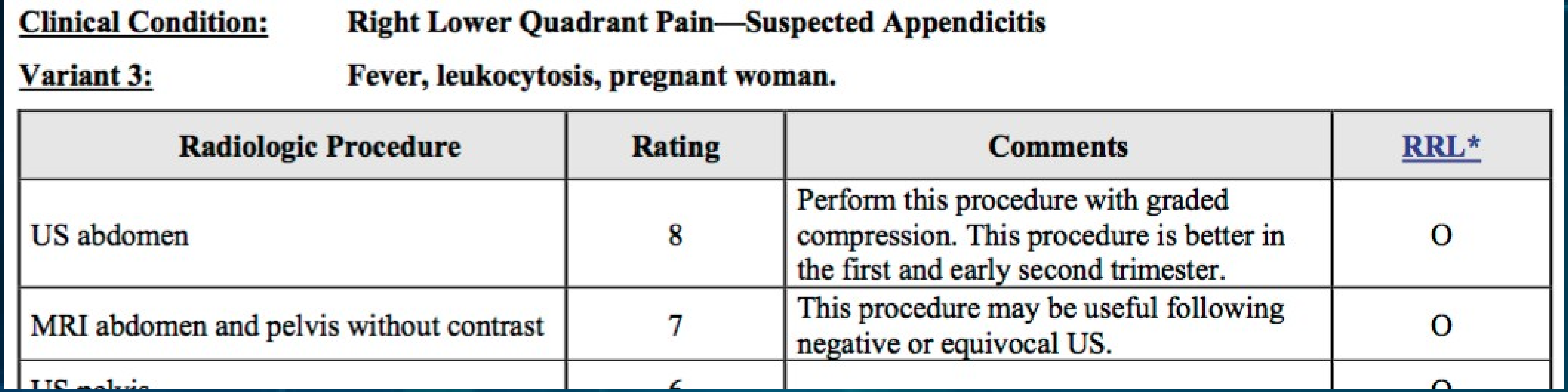
Clinical Condition: **Right Lower Quadrant Pain—Suspected Appendicitis**

Variant 1: **Fever, leukocytosis, and classic clinical presentation for appendicitis in adults.**

Radiologic Procedure	Rating	Comments	RRL*
CT abdomen and pelvis with contrast	8	Oral or rectal contrast may not be needed depending on institutional preference.	☢☢☢☢
CT abdomen and pelvis without contrast	7	Use of oral or rectal contrast depends on institutional preference.	☢☢☢☢
US abdomen	6	Perform this procedure with graded compression.	O
US pelvis	5	This procedure is appropriate in women with pelvic pain.	O
MRI abdomen and pelvis without and with contrast	5	See statement regarding contrast in text under “Anticipated Exceptions.”	O
X-ray abdomen	4	This procedure may be useful when there is concern for perforation and free air.	☢☢
CT abdomen and pelvis without and with contrast	4	Oral or rectal contrast may not be needed in this procedure depending on institutional preference.	☢☢☢☢
MRI abdomen and pelvis without contrast	4		O
X-ray contrast enema	2		☢☢☢
Tc-99m WBC scan abdomen and pelvis	2		☢☢☢☢
Rating Scale: **1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate**			***Relative Radiation Level**

Appropriate Use: ACR Appropriateness Criteria

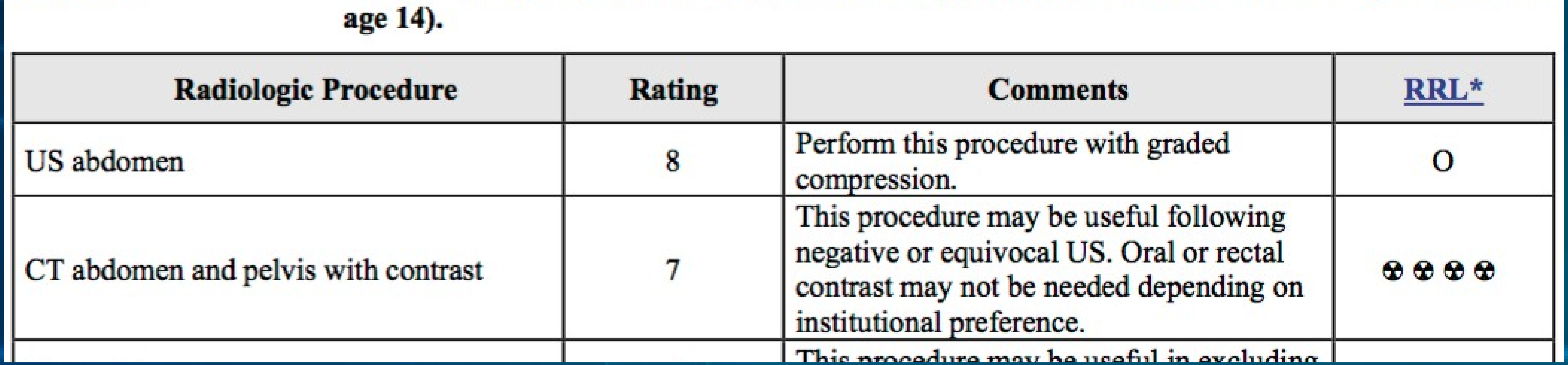
ACR Appropriateness Criteria®



Clinical Condition: **Right Lower Quadrant Pain—Suspected Appendicitis**

Variant 3: **Fever, leukocytosis, pregnant woman.**

Radiologic Procedure	Rating	Comments	RRL*
US abdomen	8	Perform this procedure with graded compression. This procedure is better in the first and early second trimester.	O
MRI abdomen and pelvis without contrast	7	This procedure may be useful following negative or equivocal US.	O
US pelvis	6		O



Variant 4: **Fever, leukocytosis, possible appendicitis, atypical presentation in children (younger than age 14).**

Radiologic Procedure	Rating	Comments	RRL*
US abdomen	8	Perform this procedure with graded compression.	O
CT abdomen and pelvis with contrast	7	This procedure may be useful following negative or equivocal US. Oral or rectal contrast may not be needed depending on institutional preference.	☢☢☢☢
		This procedure may be useful in excluding	

Appropriate Use: ACR Appropriateness Criteria

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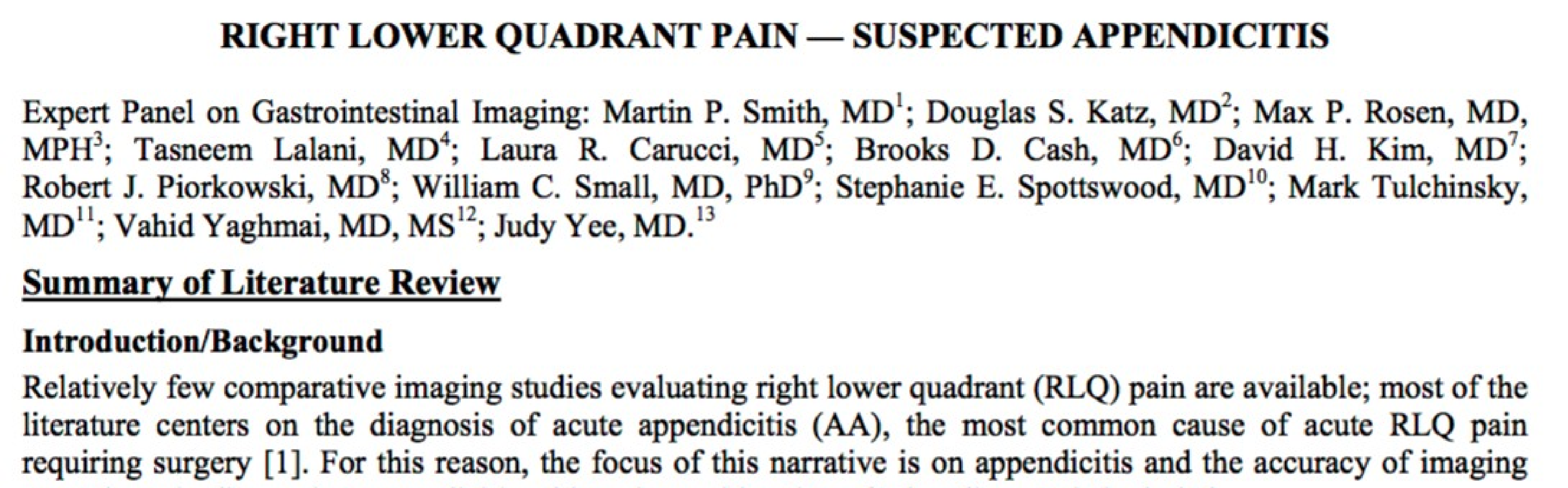


RIGHT LOWER QUADRANT PAIN — SUSPECTED APPENDICITIS

Expert Panel on Gastrointestinal Imaging: Martin P. Smith, MD[1]; Douglas S. Katz, MD[2]; Max P. Rosen, MD, MPH[3]; Tasneem Lalani, MD[4]; Laura R. Carucci, MD[5]; Brooks D. Cash, MD[6]; David H. Kim, MD[7]; Robert J. Piorkowski, MD[8]; William C. Small, MD, PhD[9]; Stephanie E. Spottswood, MD[10]; Mark Tulchinsky, MD[11]; Vahid Yaghmai, MD, MS[12]; Judy Yee, MD.[13]

Summary of Literature Review

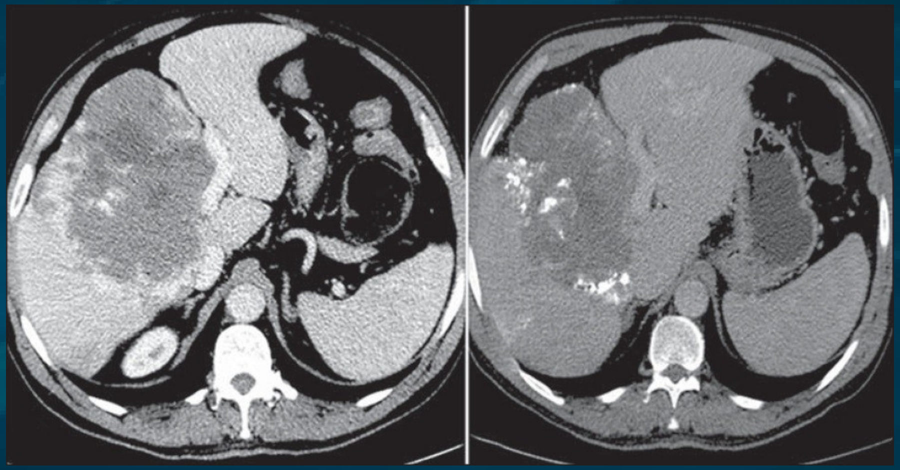
Introduction/Background

Relatively few comparative imaging studies evaluating right lower quadrant (RLQ) pain are available; most of the literature centers on the diagnosis of acute appendicitis (AA), the most common cause of acute RLQ pain requiring surgery [1]. For this reason, the focus of this narrative is on appendicitis and the accuracy of imaging procedures in diagnosing appendicitis, although consideration of other diseases is included.

Appropriate Use: Intravenous contrast

Appropriate Use: Intravenous contrast

Unindicated multiphase CT scans contribute to unnecessary radiation exposure[18]



CT A/P	Dose Estimate[19] (mSv)
Single phase of contrast	Up to 14
With and without contrast	Up to 28
Triple phase	Up to 42
Quadruple phase	Up to 56

Appropriate Use: Intravenous contrast

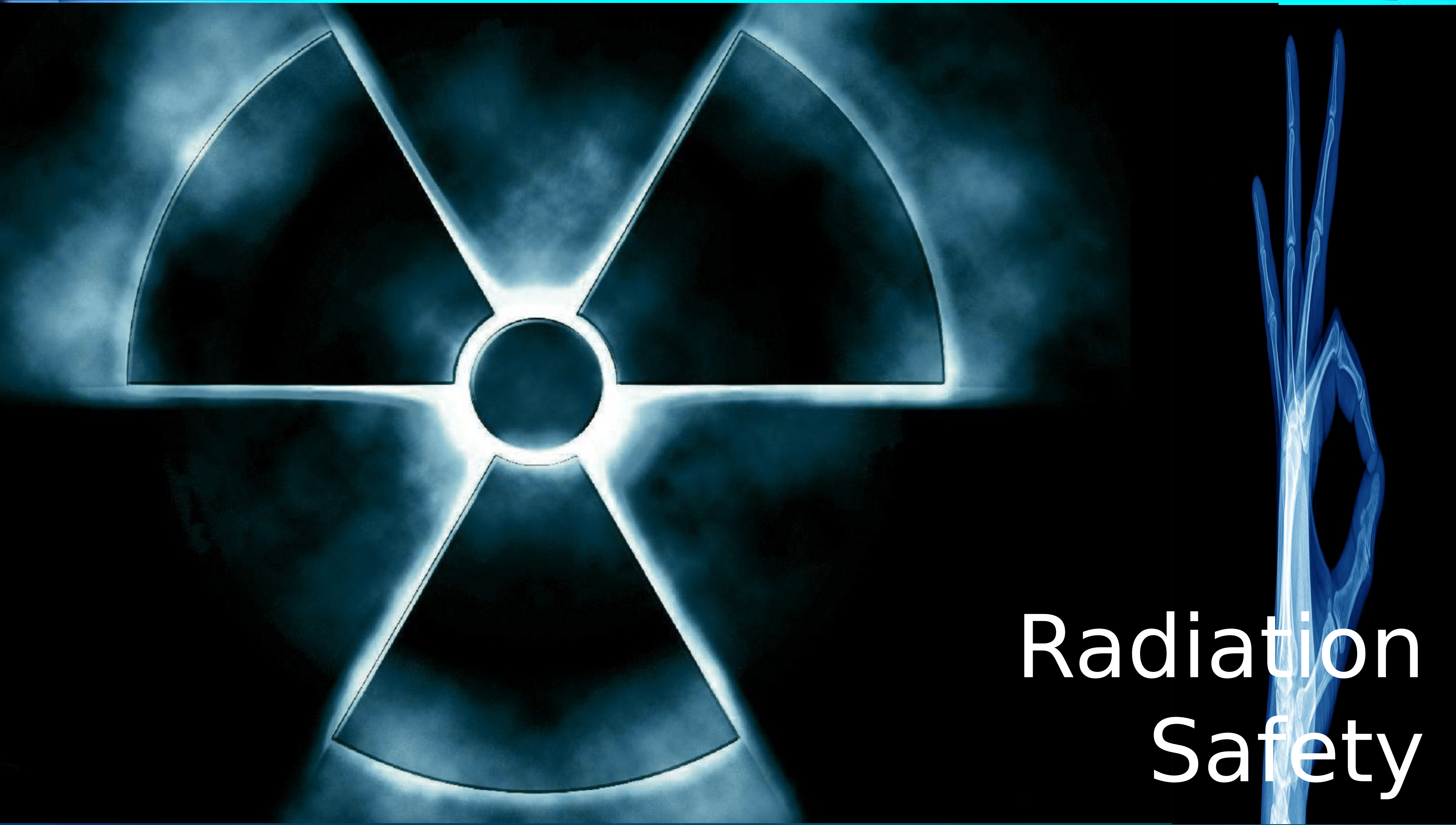
Clinical scenarios that only require a single post-contrast CT acquisition:

- **Appendicitis**
- **Diverticulitis**
- **Cholecystitis**
- **Inflammatory bowel disease**
- **Small bowel obstruction**
- **Hypovascular malignancy**
  - **(lung, gastric, colorectal, GIST, ovary, sarcoma, lymphoma, breast)**

Appropriate Use: Intravenous contrast

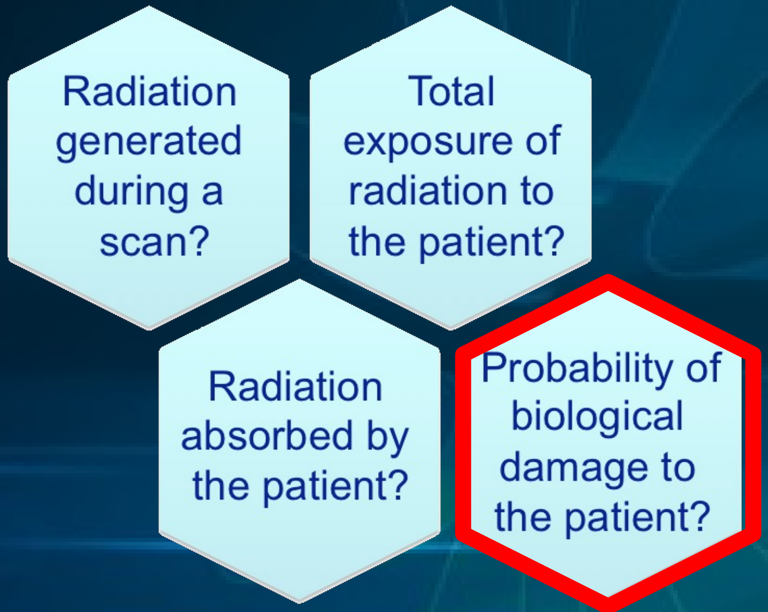
Clinical scenarios that require multiple CT acquisitions:

Pancreatic cancer	**(arterial and venous)**
Hepatocellular carcinoma	**(arterial and venous)**
Hypervascular malignancies	**(arterial and venous)**
Ischemic bowel	**(arterial and venous)**
GI hemorrhage	**(arterial and venous)**
Adrenal nodule	**(noncontrast, venous, 15-minute)**
Aortic endograft	**(noncontrast, arterial, venous)**
Cholangiocarcinoma	**(arterial, venous, delay)**
Hematuria or renal mass	**(noncontrast, arterial, venous, delay)**



Radiation Safety

How Do We Talk About Radiation Dose?



Radiation generated during a scan?

Total exposure of radiation to the patient?

Radiation absorbed by the patient?

Probability of biological damage to the patient?

1 mSv

≈

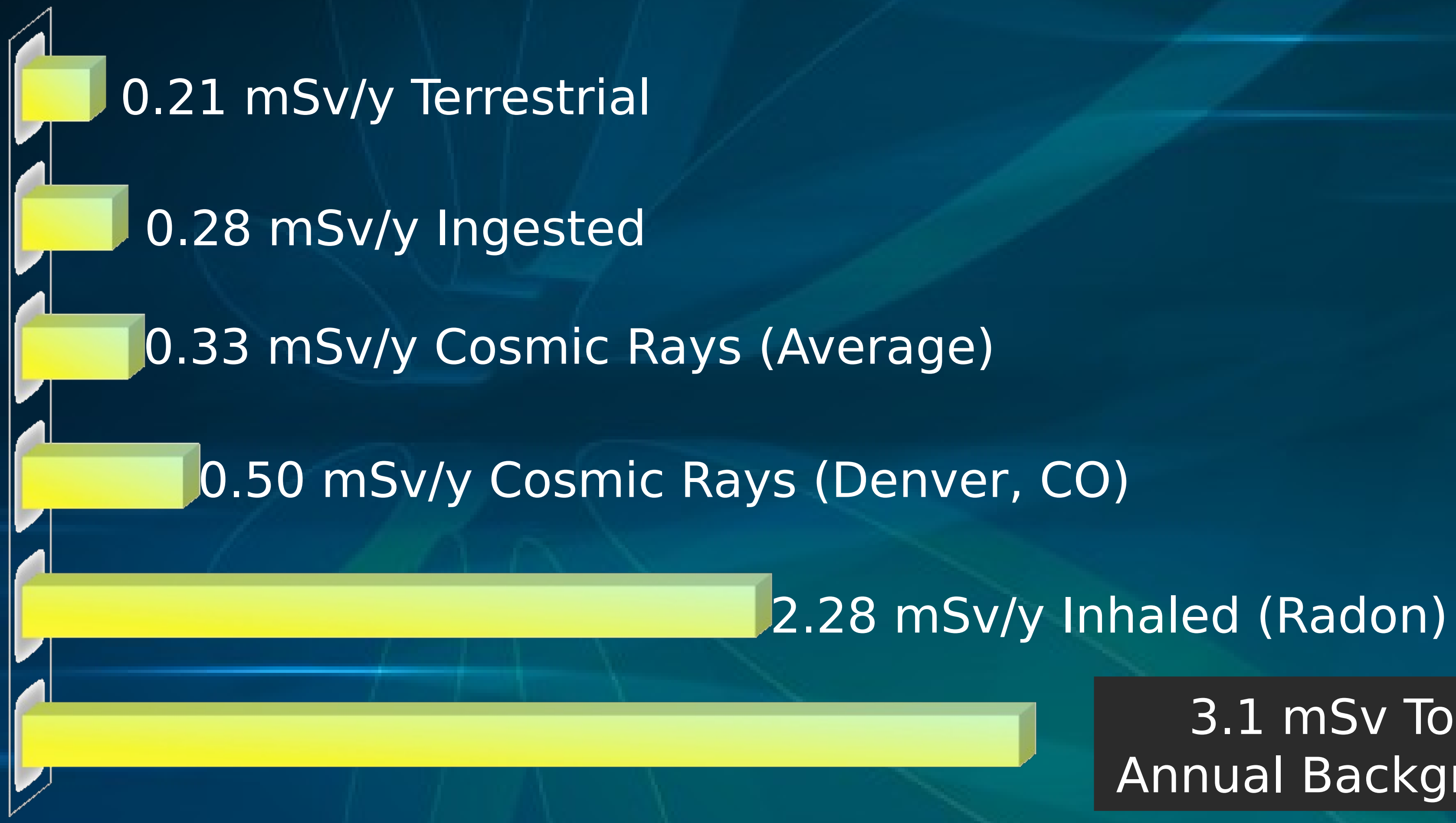
1 / 10,000 risk of cancer diagnosis

1 / 20,000 risk of cancer mortality

(Baseline lifetime cancer incidence: 40%)

Effective Dose
(Sievert, mSV)

Everyday Dose Estimates



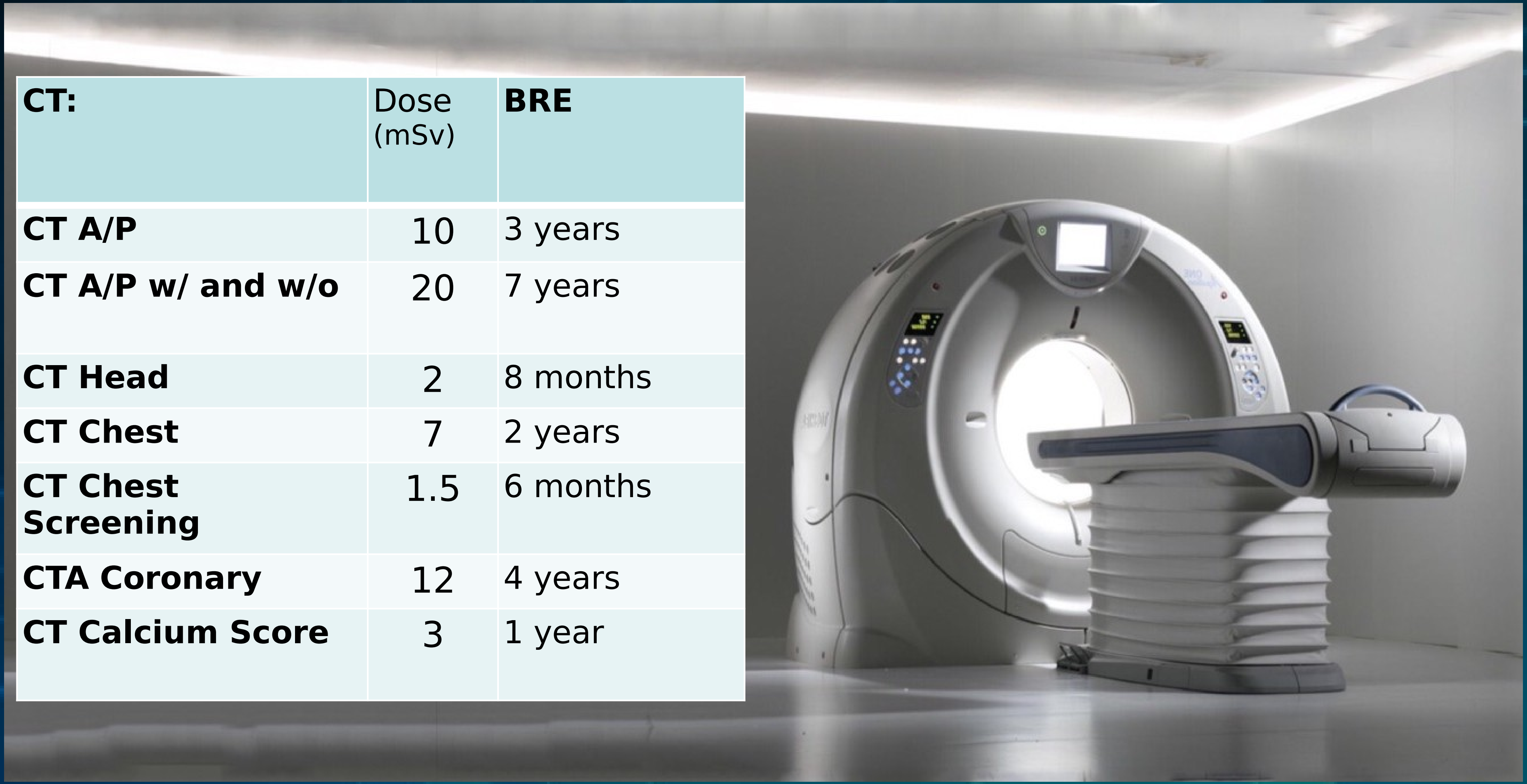
3.1 mSv Total
Annual Background

Radiography

Radiograph:	Dose (mSv)	**BRE***
Extremity	0.001	3 hours
CXR	0.1	10 days
Mammography	0.4	7 weeks
DEXA	< 0.001	Negligible
Spine	1.5	6 months
UGI Fluoroscopy	6	2 years
Barium Enema Fluoroscopy	8	3 years

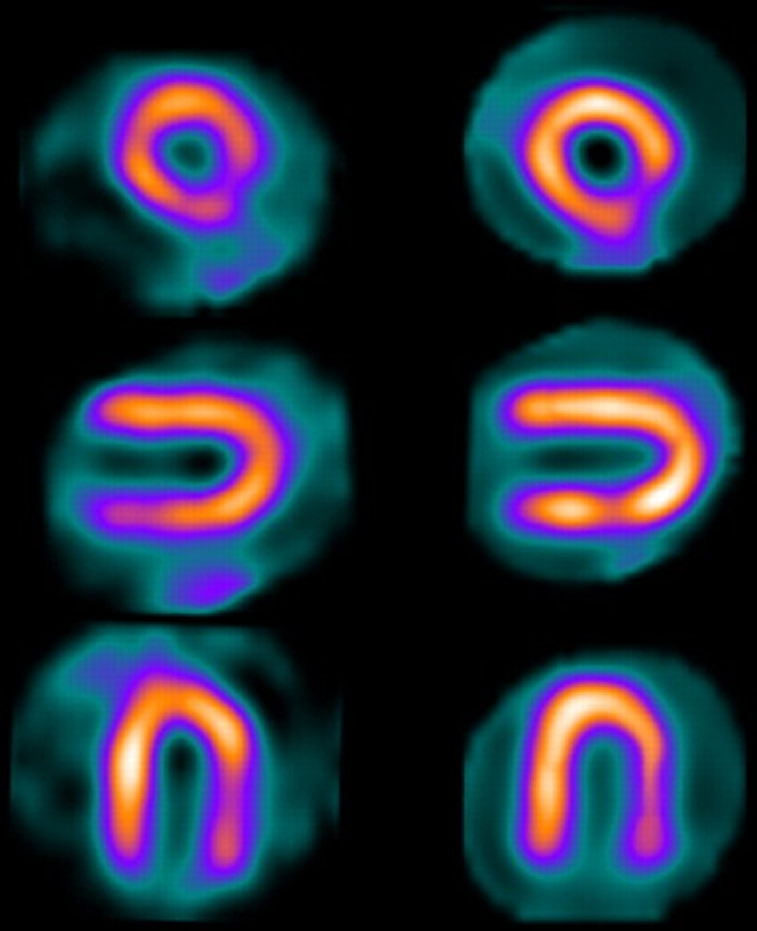
BRE = Background Radiation Equivalent

CT



CT:	Dose (mSv)	**BRE**
CT A/P	10	3 years
CT A/P w/ and w/o	20	7 years
CT Head	2	8 months
CT Chest	7	2 years
CT Chest Screening	1.5	6 months
CTA Coronary	12	4 years
CT Calcium Score	3	1 year

Nuclear Medicine

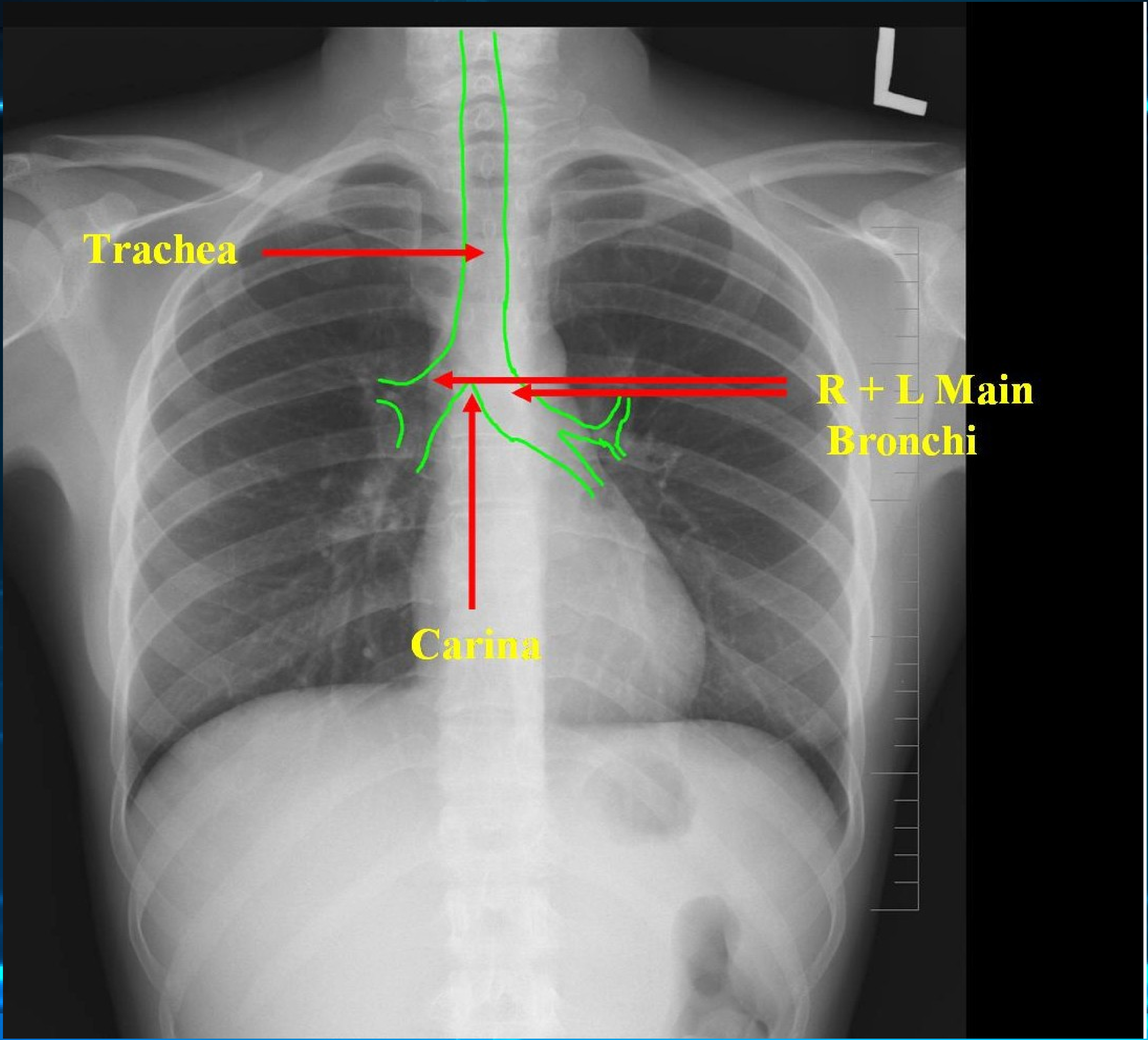


Nuclear Scan:	Dose (mSv)	**BRE**
Cardiac Stress (Tl)	40.7	13 years
Cardiac Stress (Sestamibi)	9.4	3 years
VQ Scan	2.2	8 months
HIDA Scan	3.1	1 year
Bone Scan	6.3	2 years
Thyroid Scan (Tc)	4.8	18 months
PET/CT	25	8 years

Interventional Radiology & Cardiology

Procedure:	Dose (mSv)	**BRE**
Cerebral Angiography	0.8 - 19.6	Variable
Coronary Angiography	2 - 15.8	Variable
Coronary PCI	6.9 - 57	Variable
TIPS	20 - 180	Variable
Pelvic Vein Embolization	60	Variable

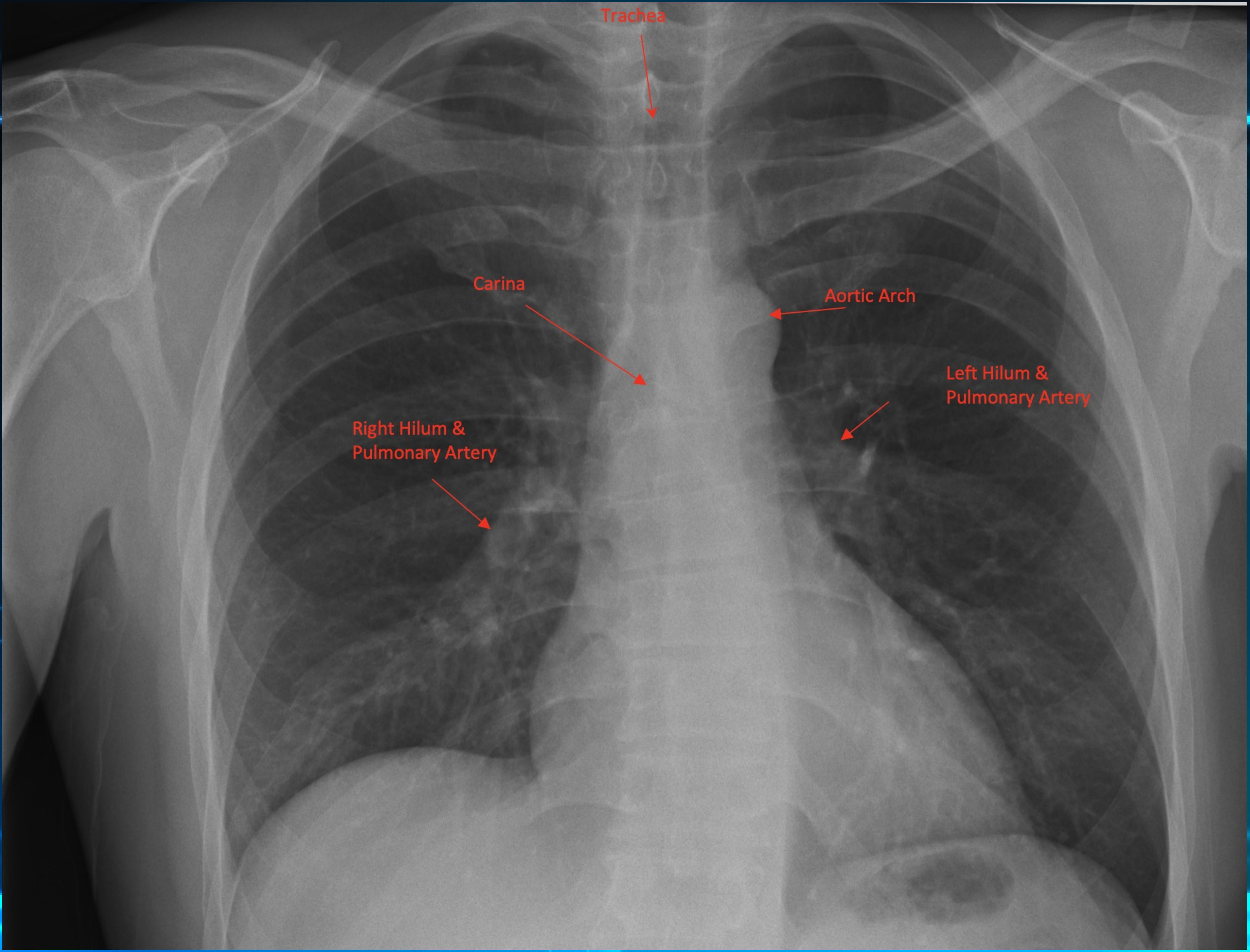
Interpretation Skills



Trachea

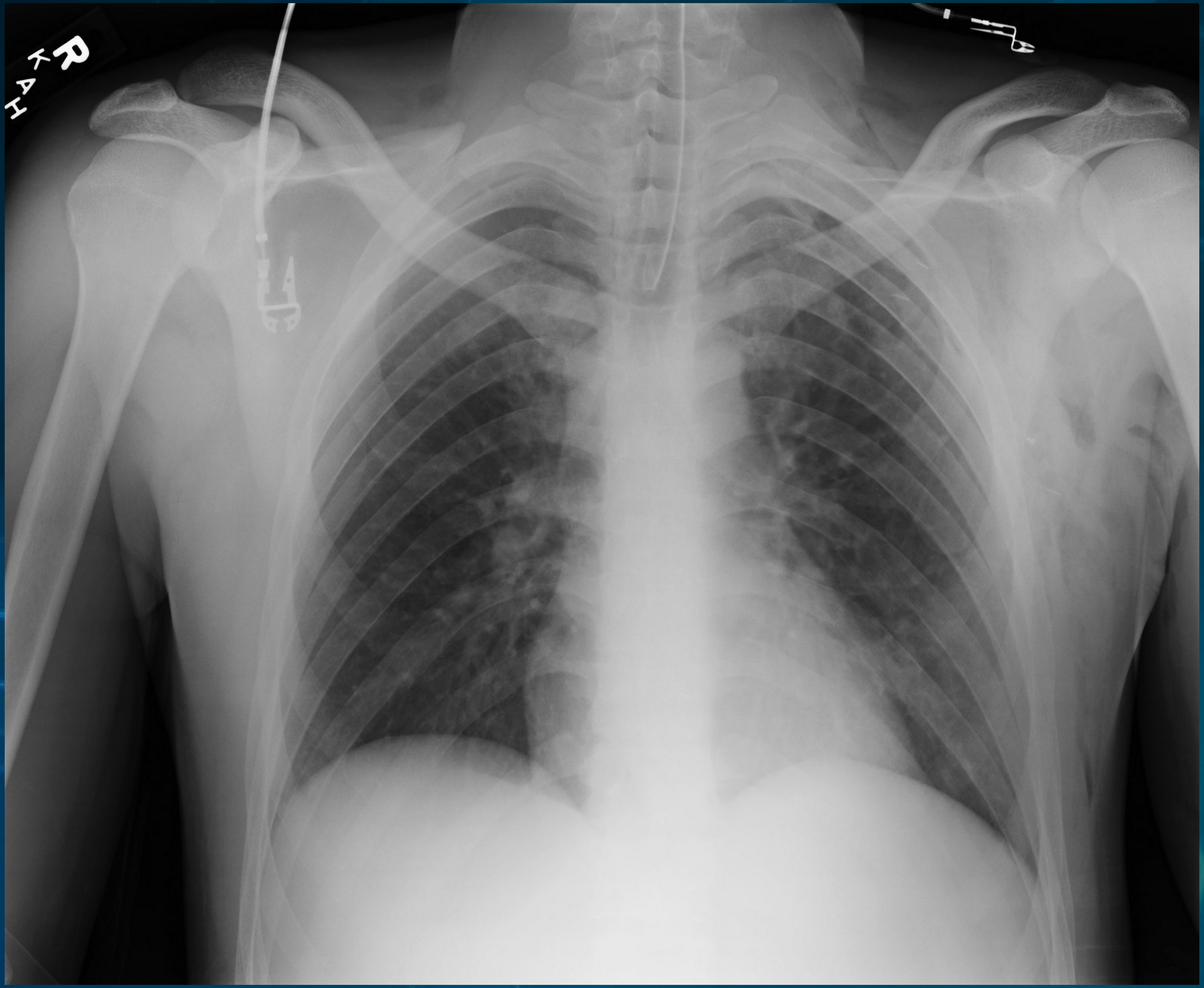
R + L Main Bronchi

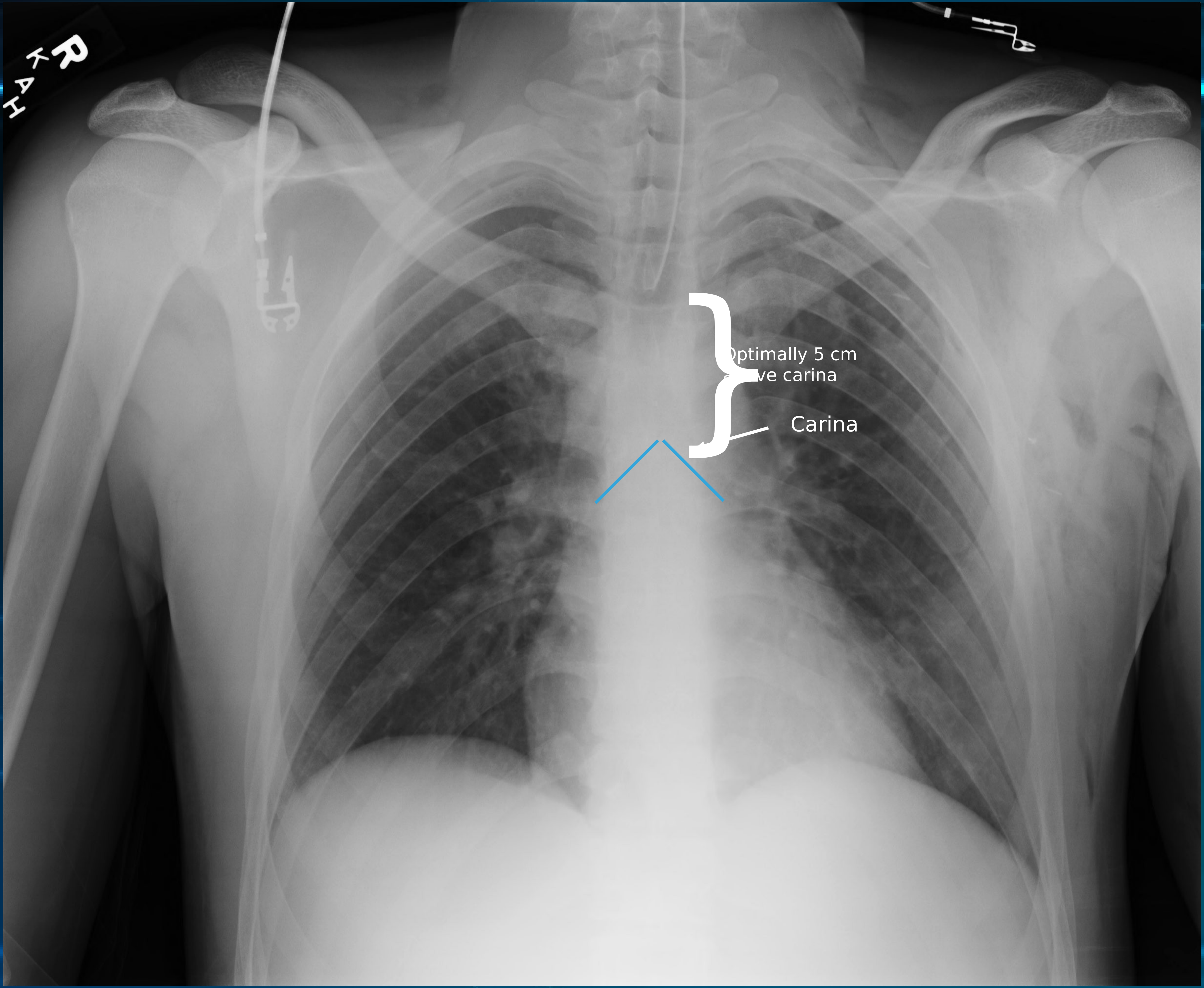
Carina


Trachea
Carina
Aortic Arch
Left Hilum &
Pulmonary Artery
Right Hilum &
Pulmonary Artery

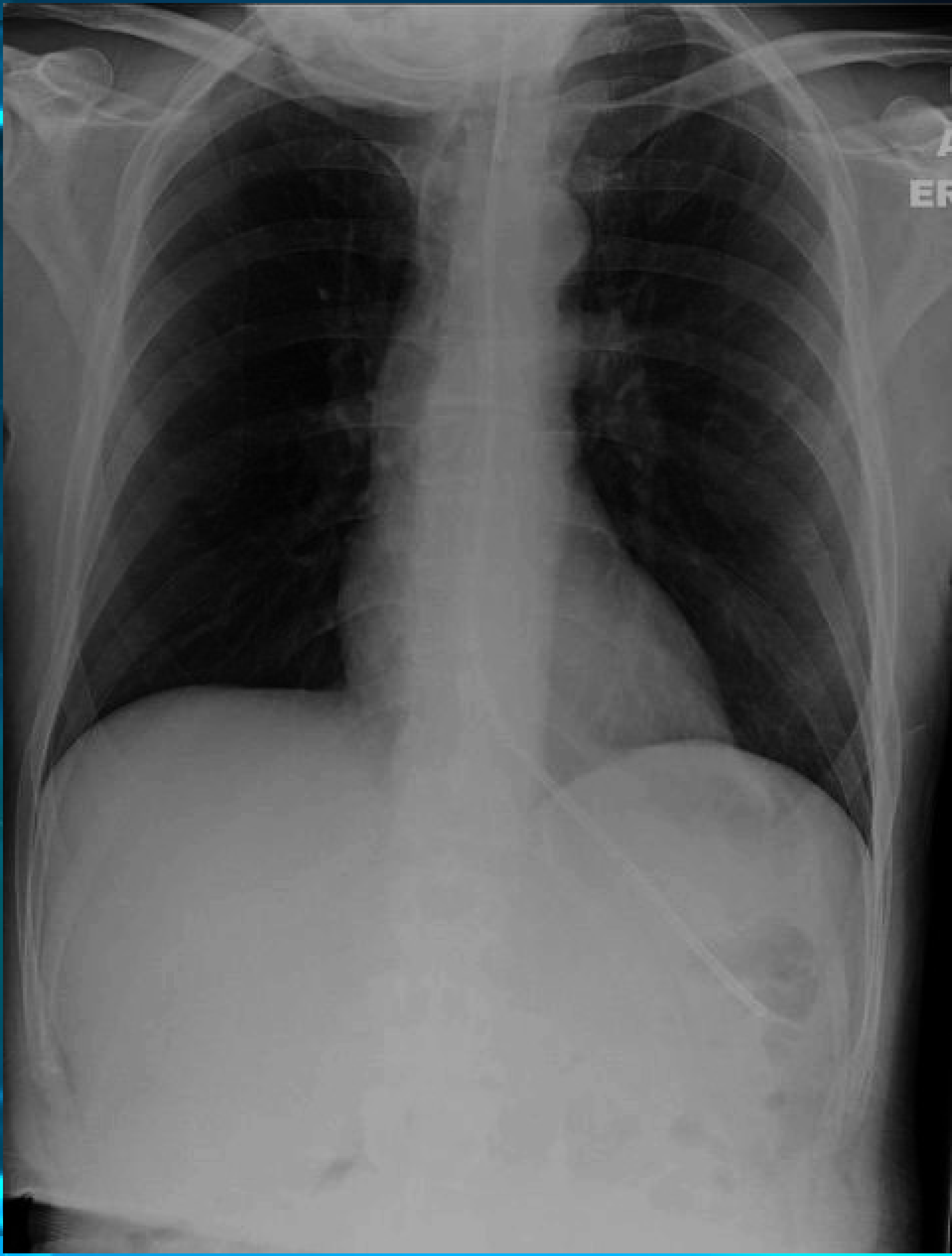
Lines and Tubes

Lines and Tubes:



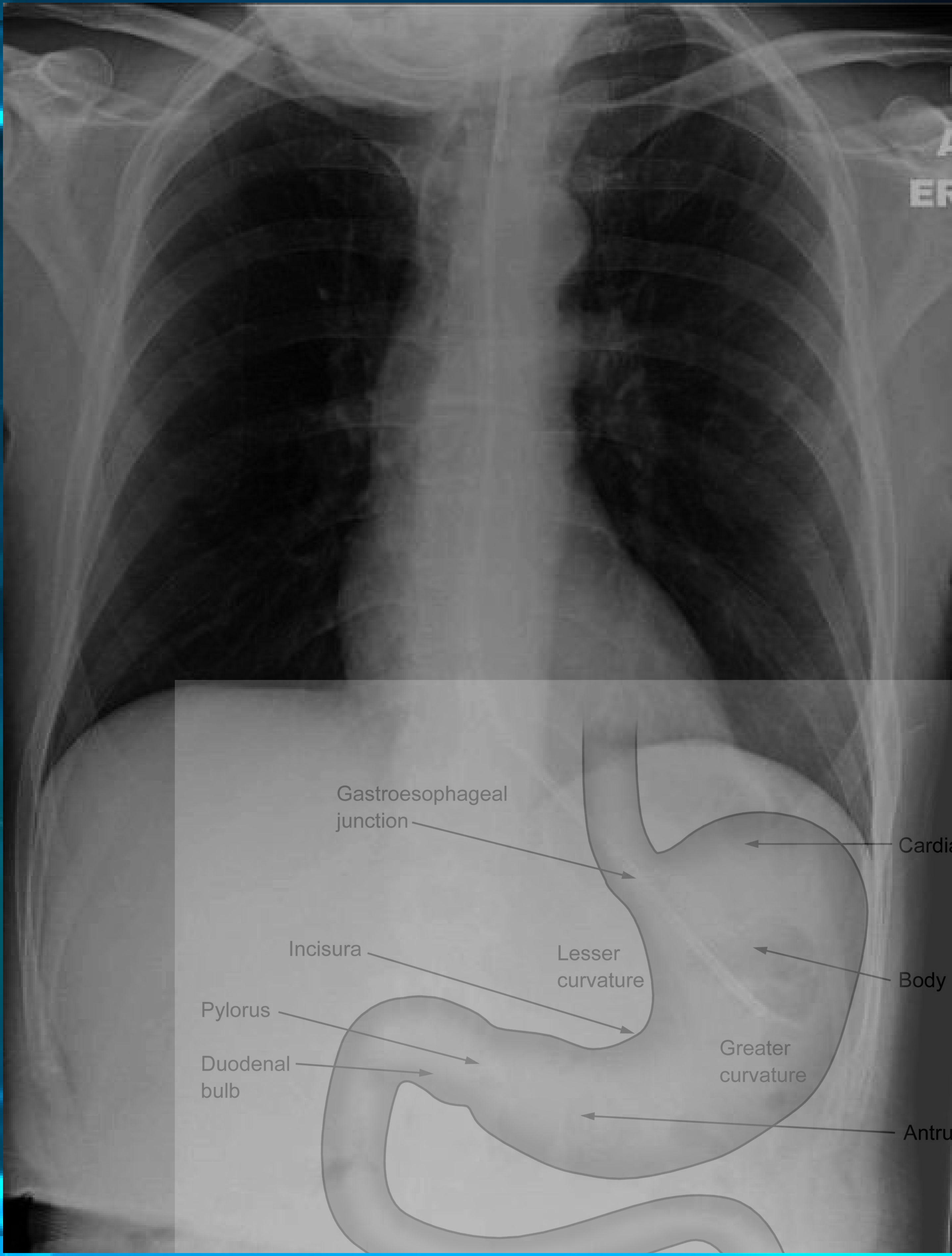

R
KAH
Optimally 5 cm above carina
Carina

Lines and Tubes:

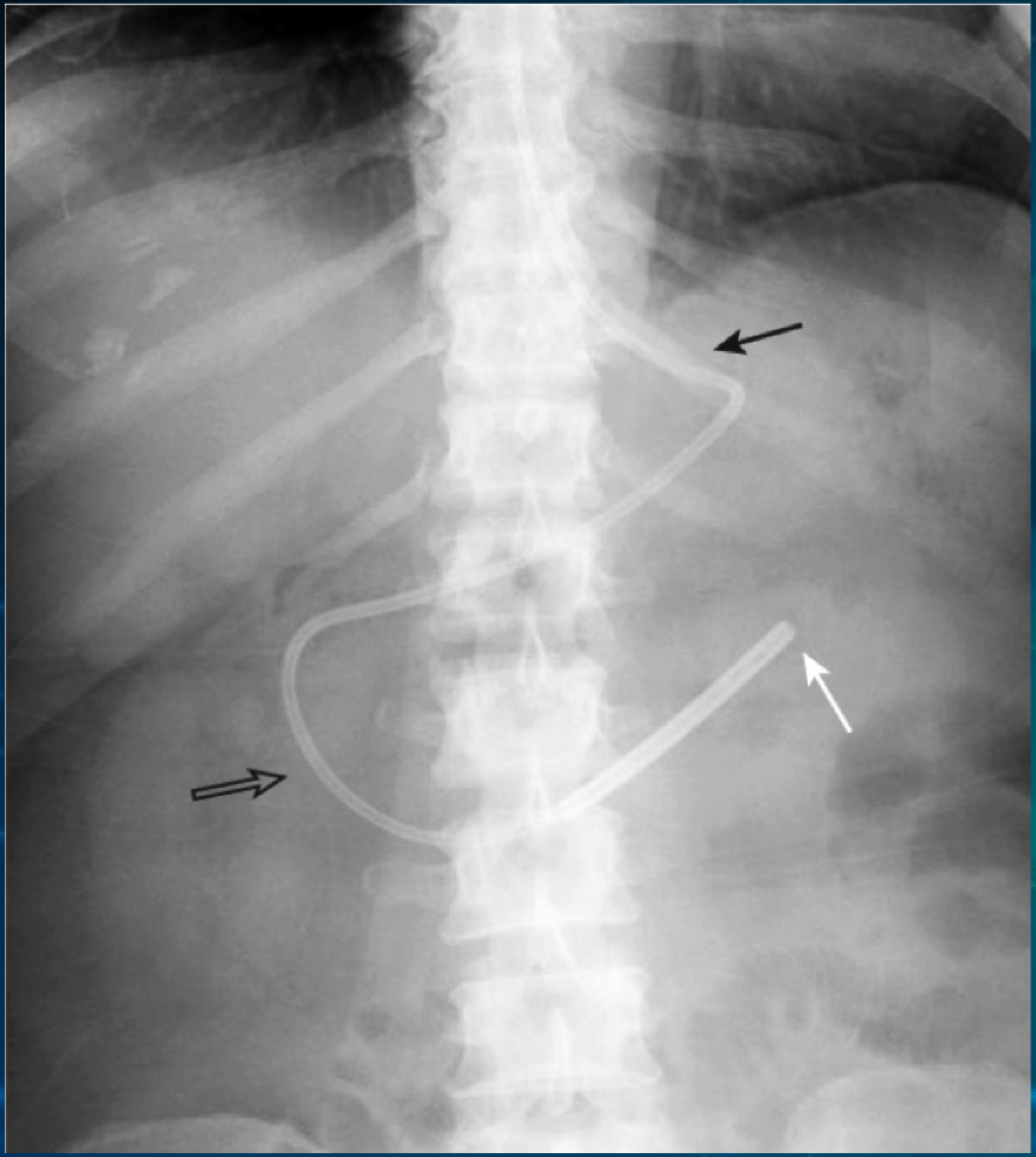


Lines and Tubes:

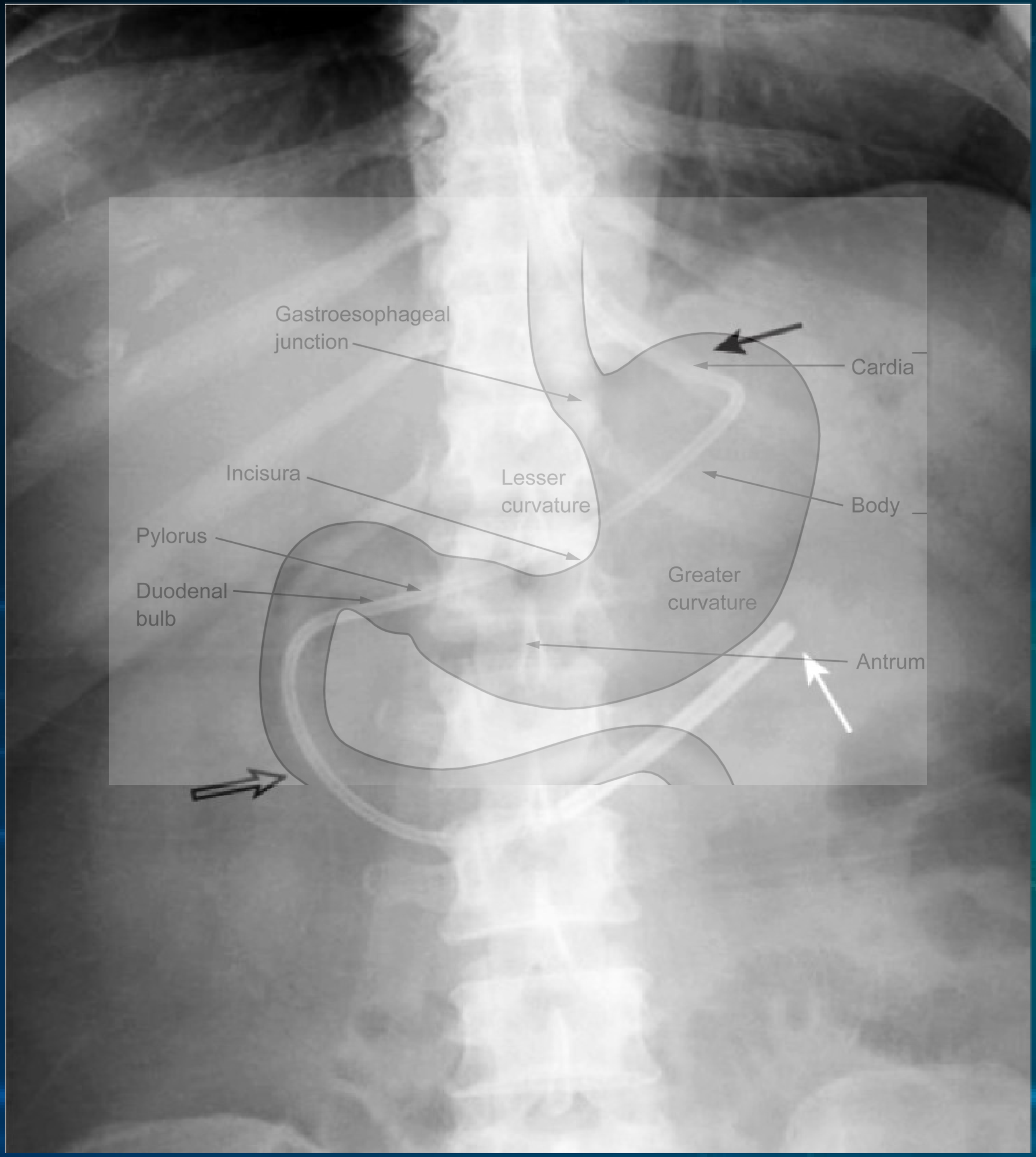
Nasogastric tube


ER
Gastroesophageal junction
Cardi
Incisura
Lesser curvature
Body
Pylorus
Duodenal bulb
Greater curvature
Antru

Lines and Tubes:



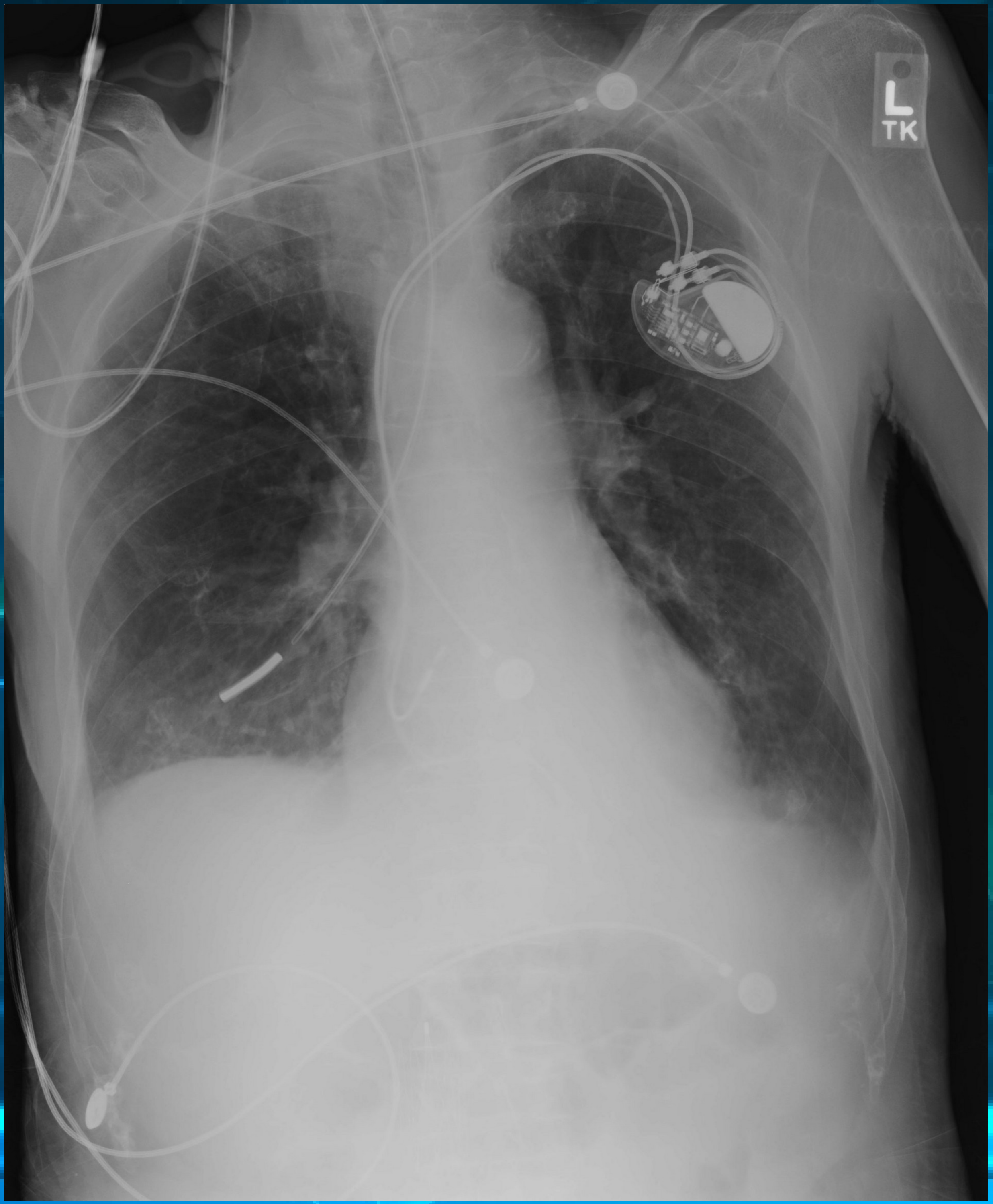
Lines and Tubes: Feeding tube


Gastroesophageal junction
Cardia
Incisura
Lesser curvature
Body
Pylorus
Duodenal bulb
Greater curvature
Antrum

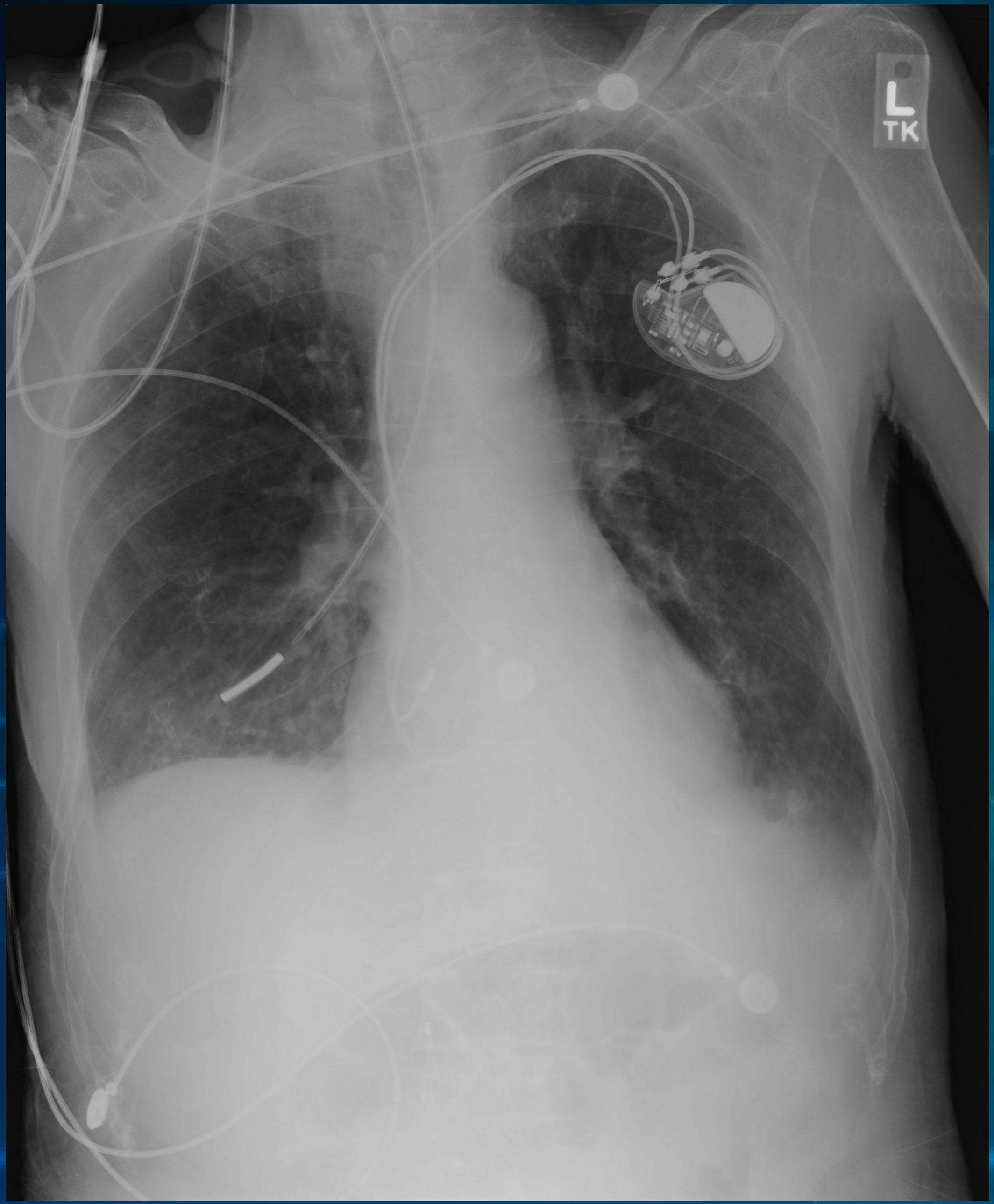
Optimal placement of feeding tube duodenal-jejunal junction

The tube crosses midline twice

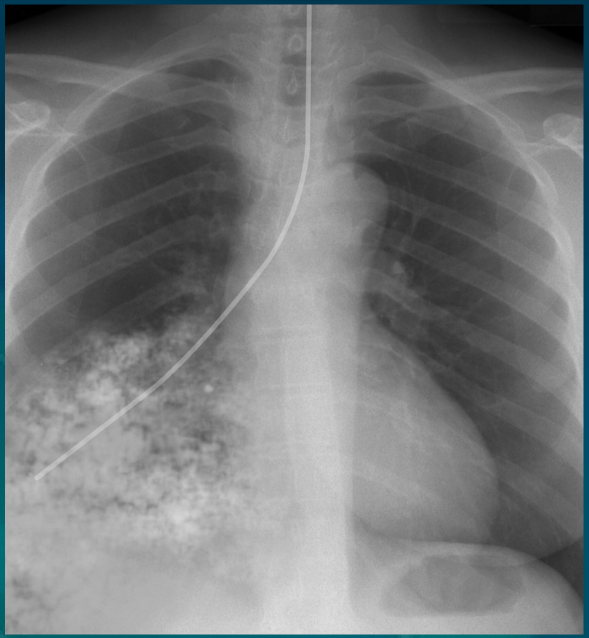
Lines and Tubes: NG tube / Feeding tube



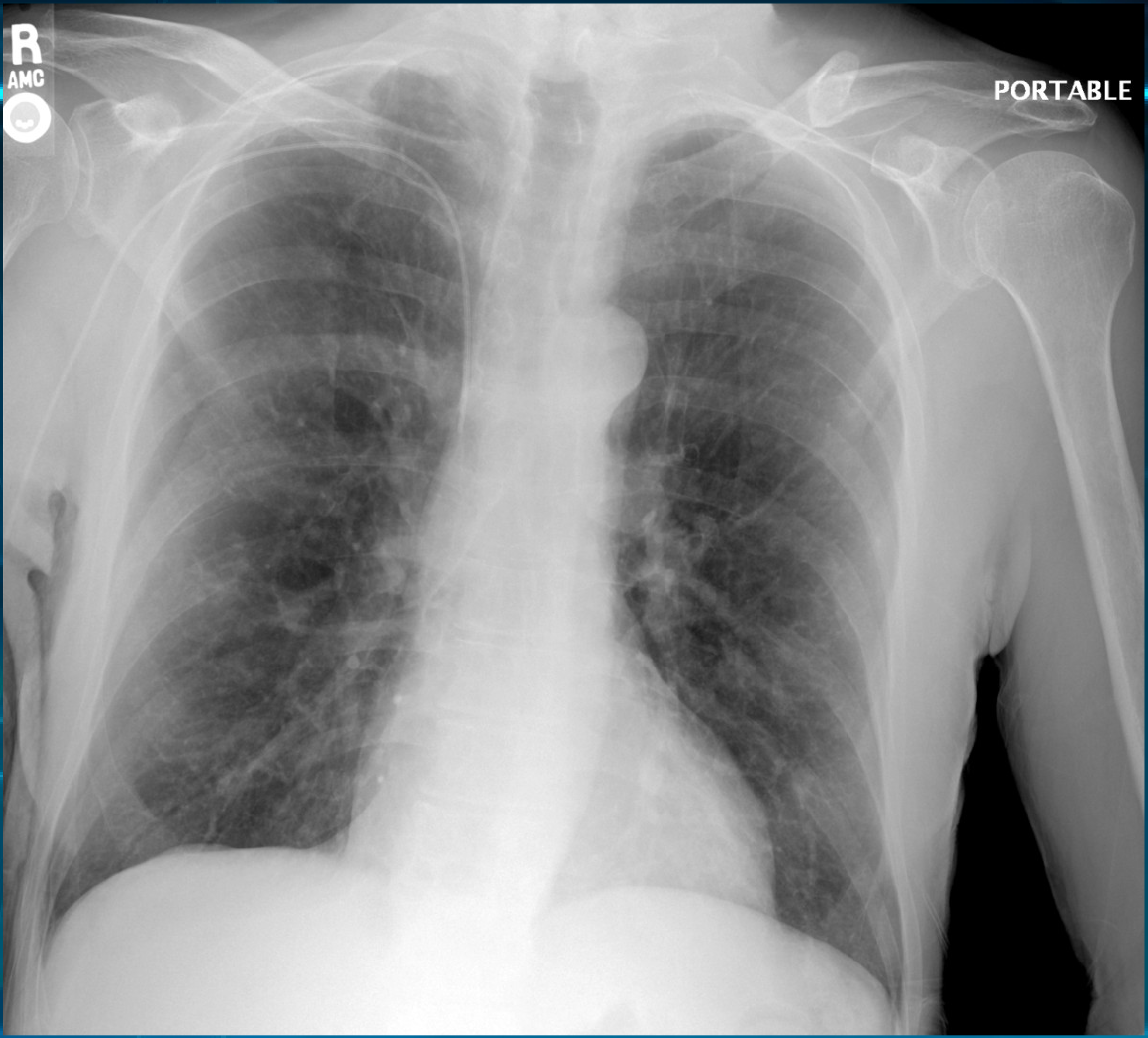
Lines and Tubes: NG tube / Feeding tube



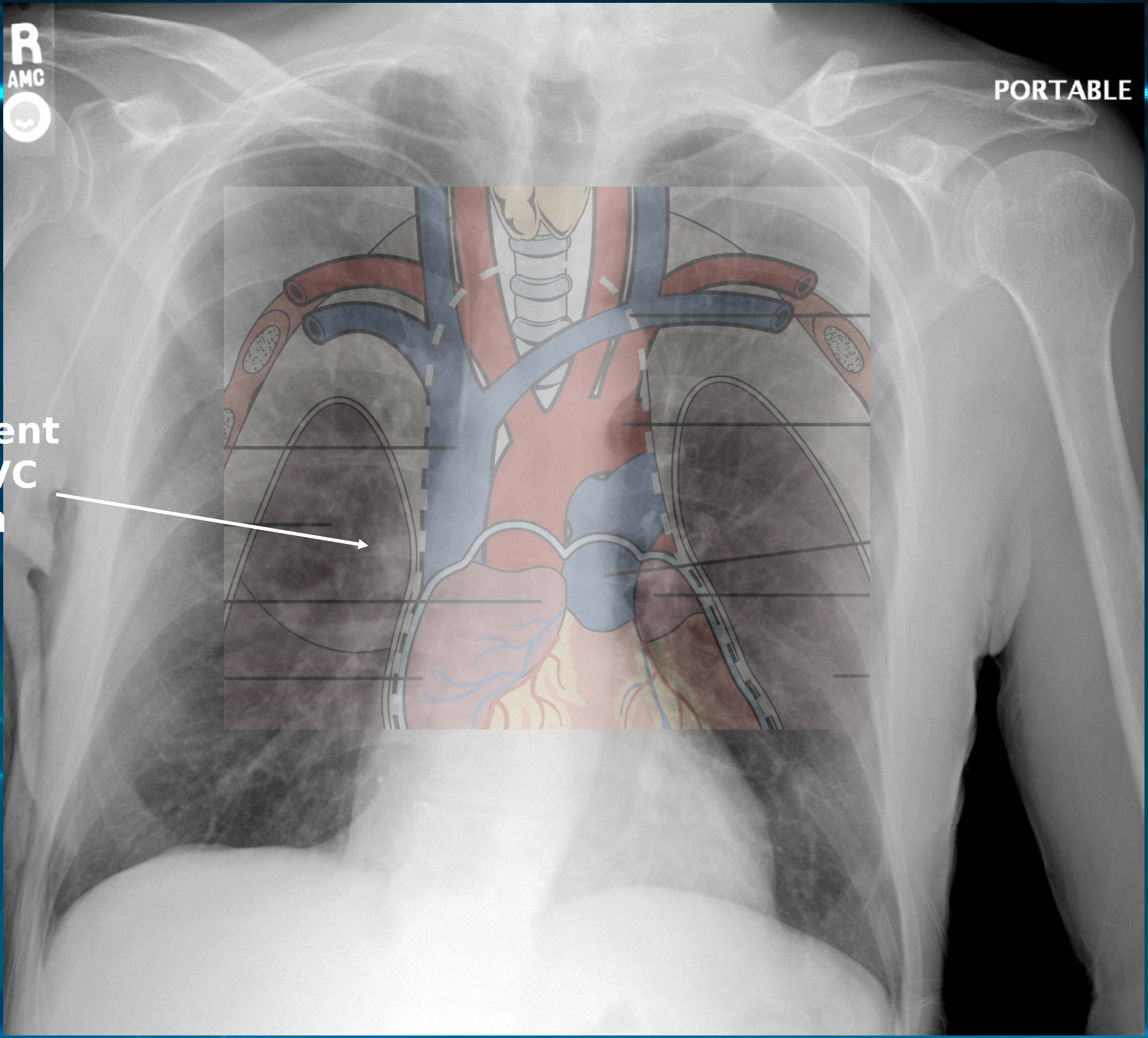
Feeding tube misplaced in right bronchial tree



Lines and Tubes: PICC


R
AMC
PORTABLE

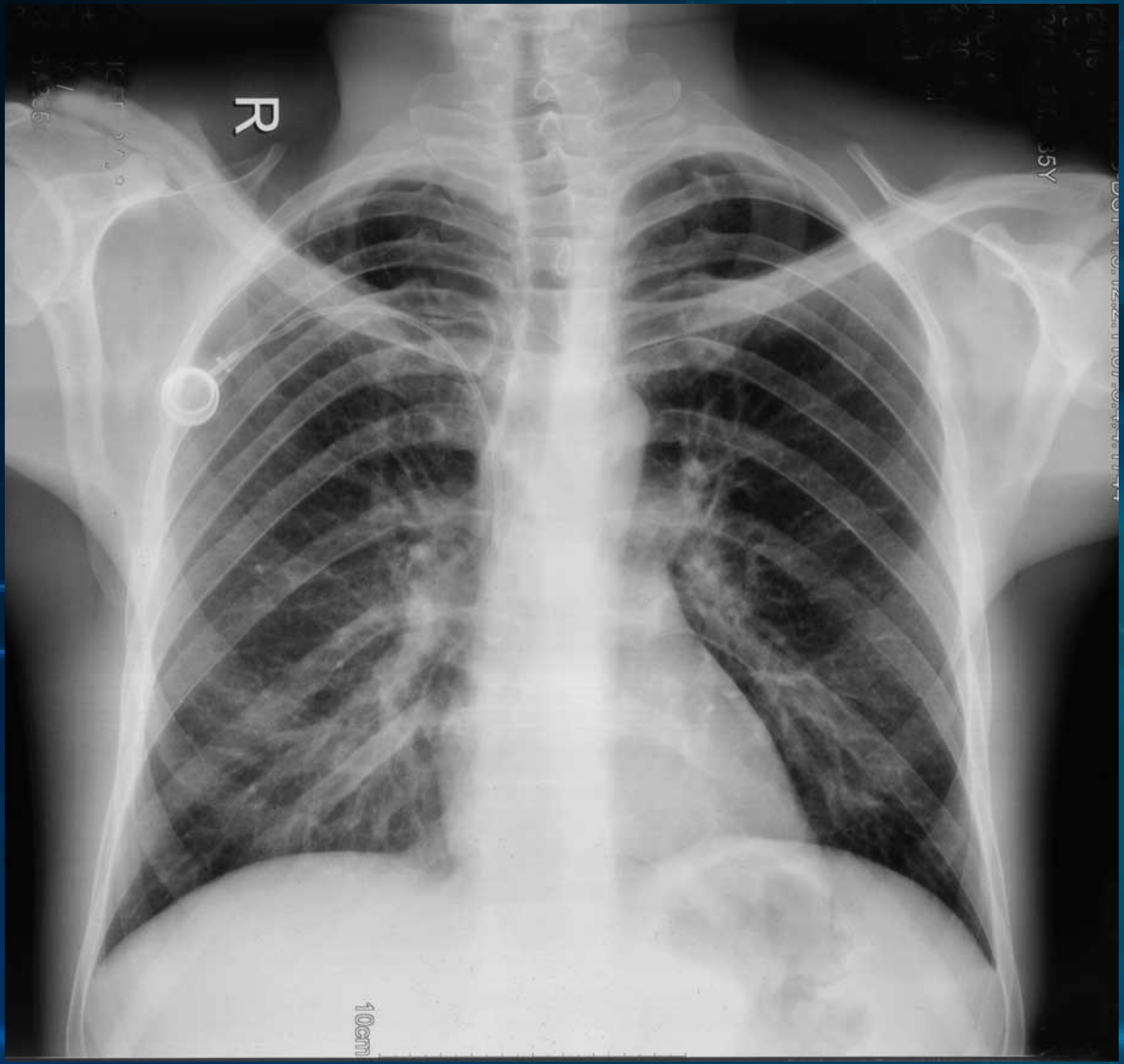
Lines and Tubes: PICC


R
AMC
PORTABLE

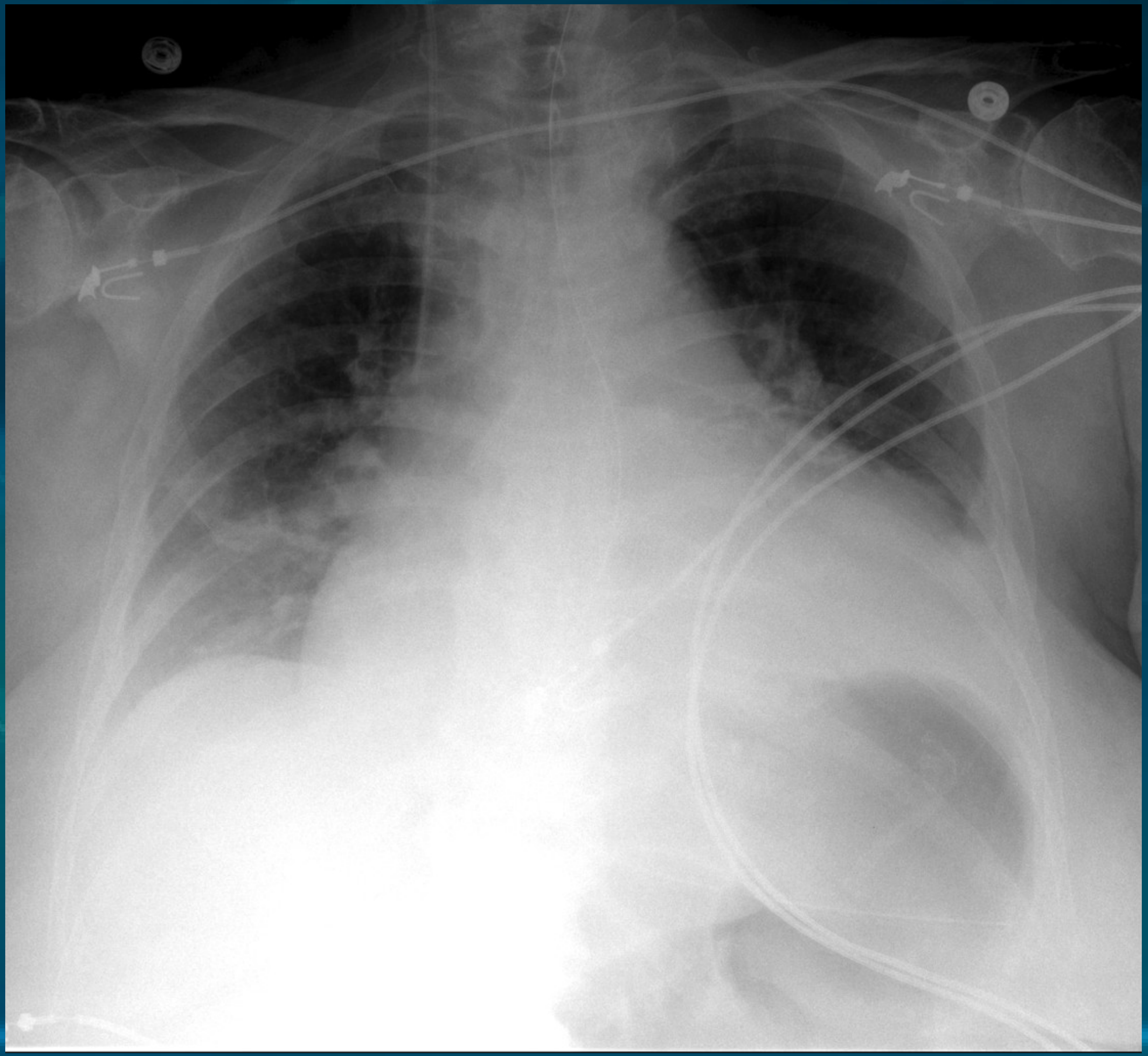
Optimal placement at junction of SVC and right atrium

Lines and Tubes: Central lines

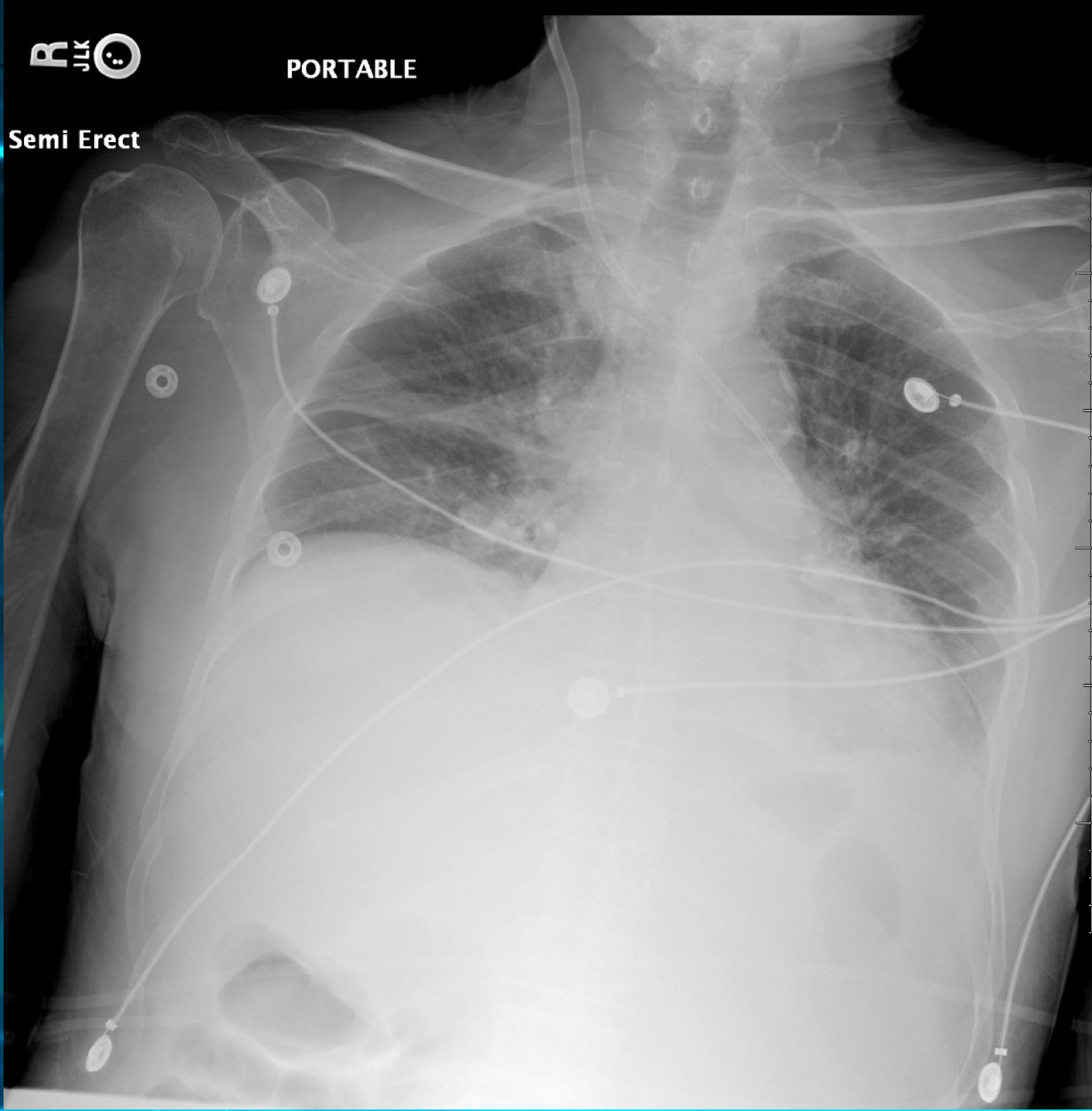
Subclavian port catheter



Internal jugular catheter



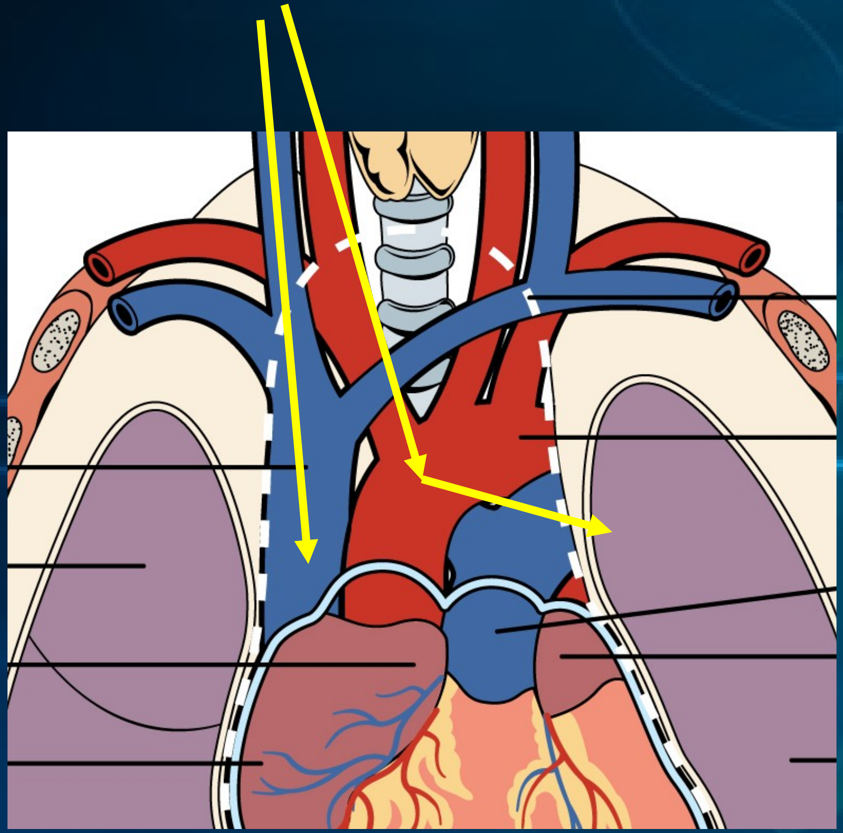
Lines and Tubes: Central lines

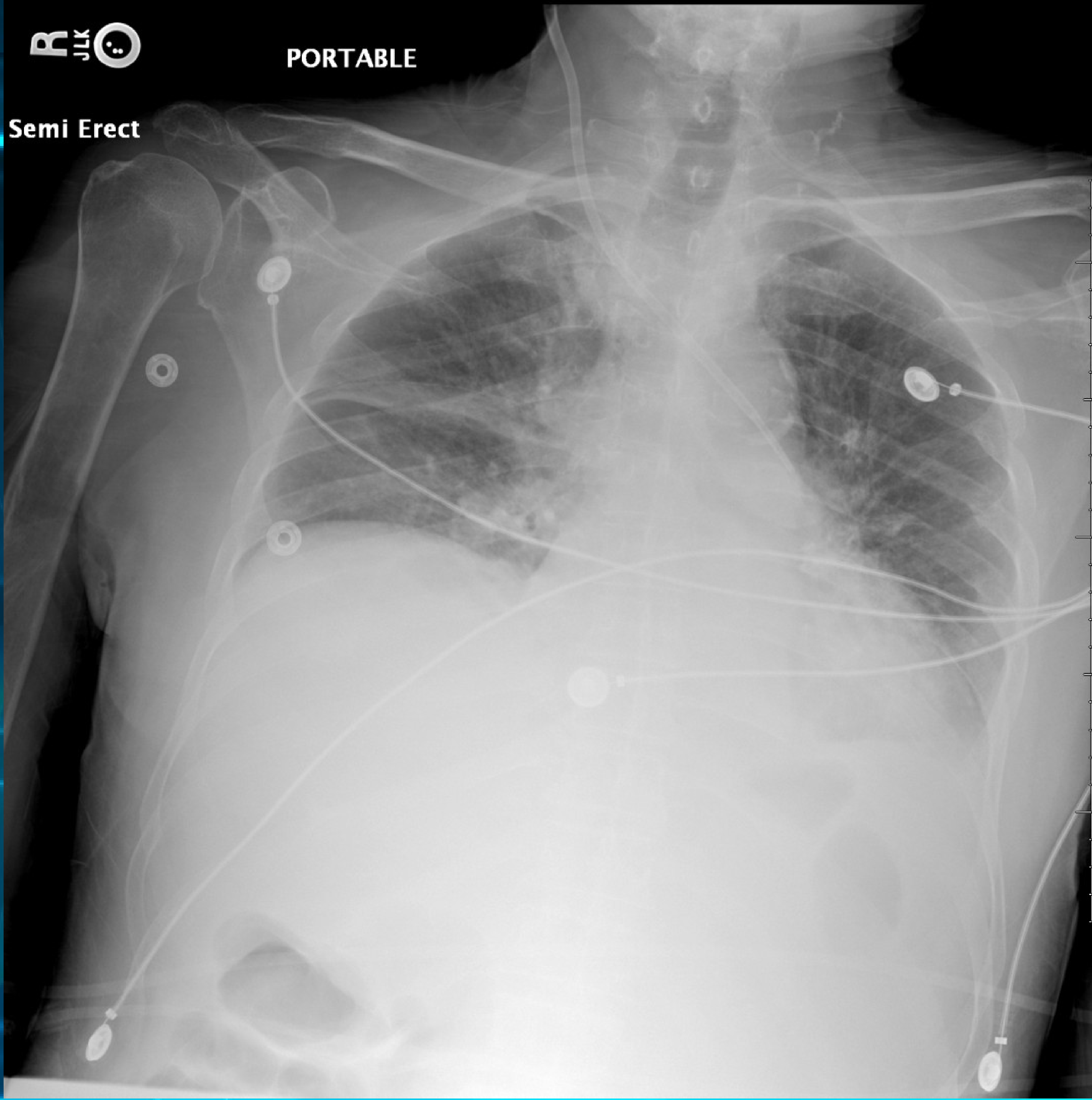

R
JLK
PORTABLE
Semi Erect

Lines and Tubes:

Central lines

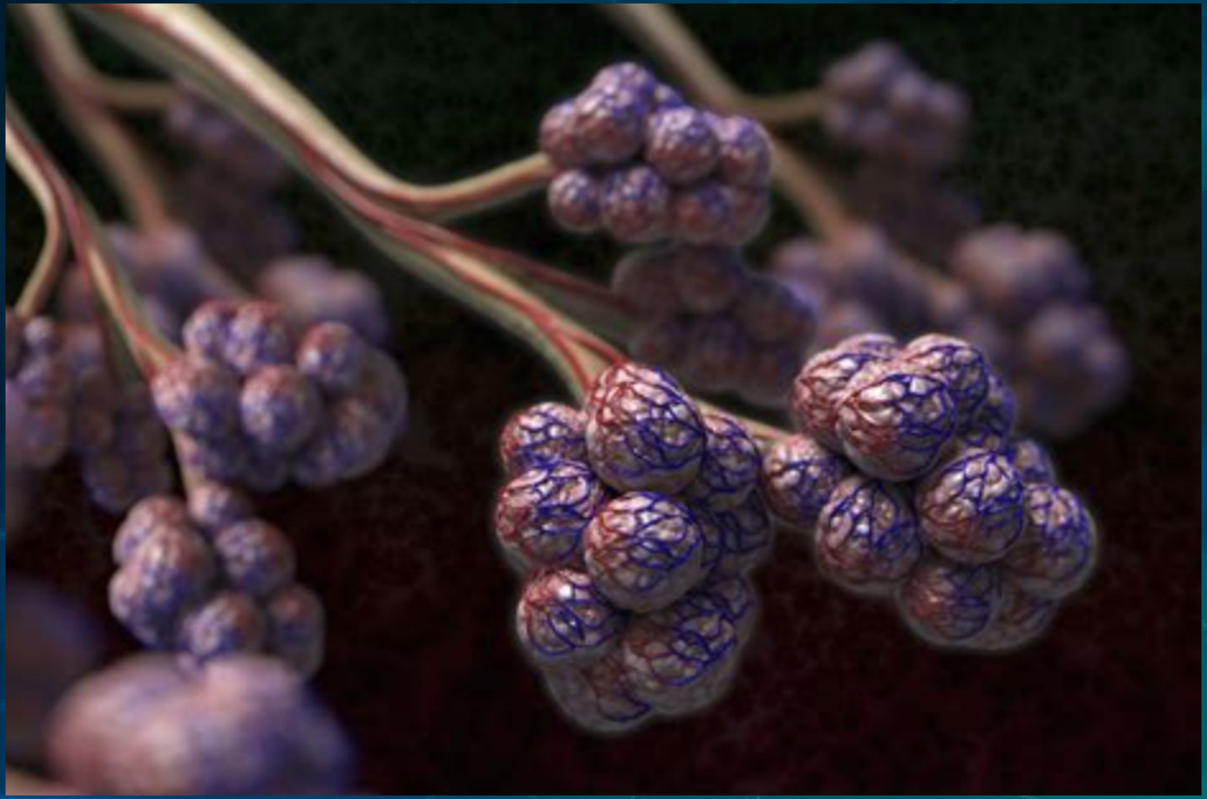
Right IJ catheter misplaced arterially, positioned within aorta




R
JLK
PORTABLE
Semi Erect

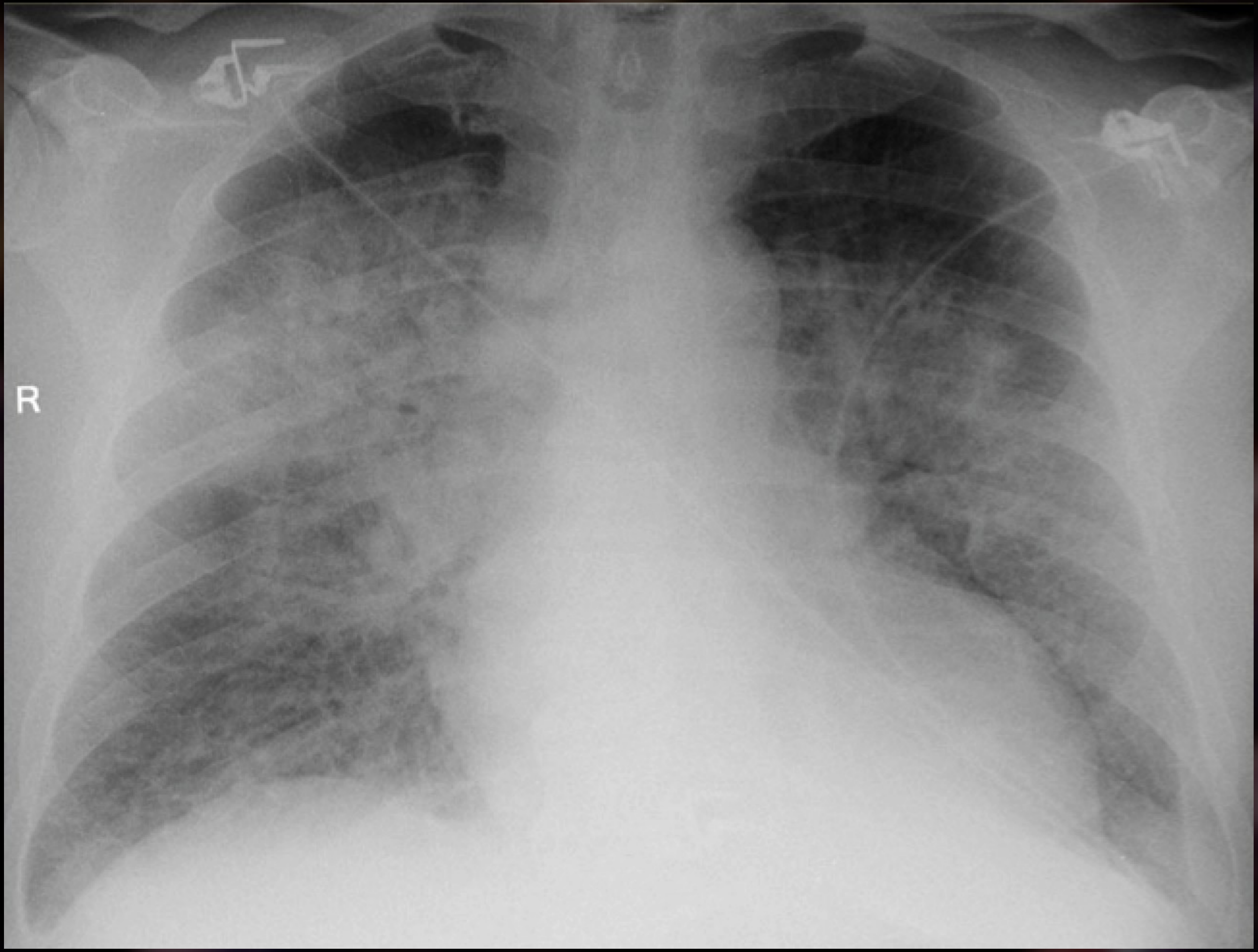
Chest Radiography

Chest Radiography: Airspace disease



Filling of alveolar air spaces with fluid results in “airspace opacities” on radiographs

Chest Radiography: Airspace disease



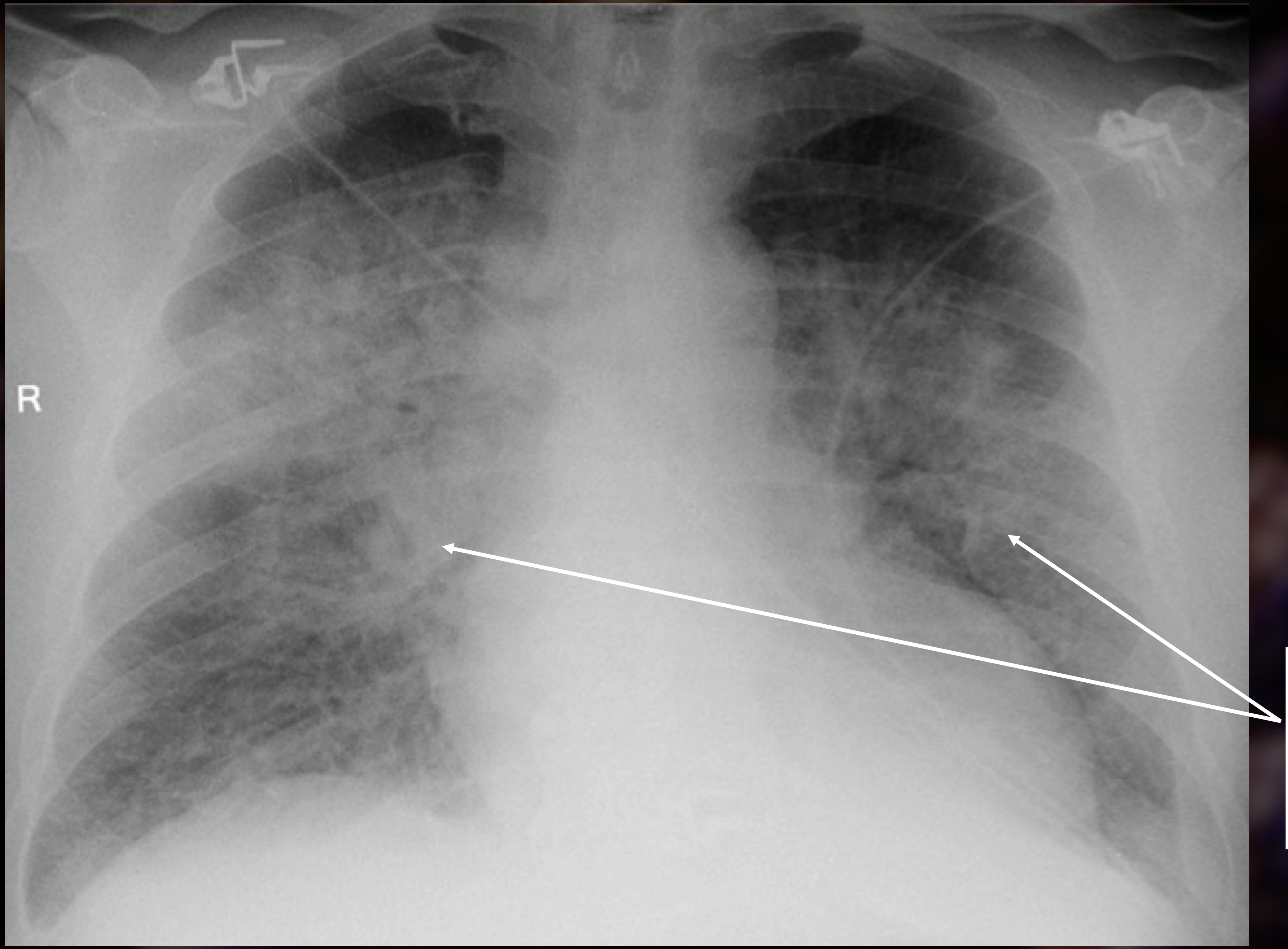
Airspace opacities

“Hazy”

“Fluffy”

“Cloud-like”

Chest Radiography: Airspace disease



Airspace opacities

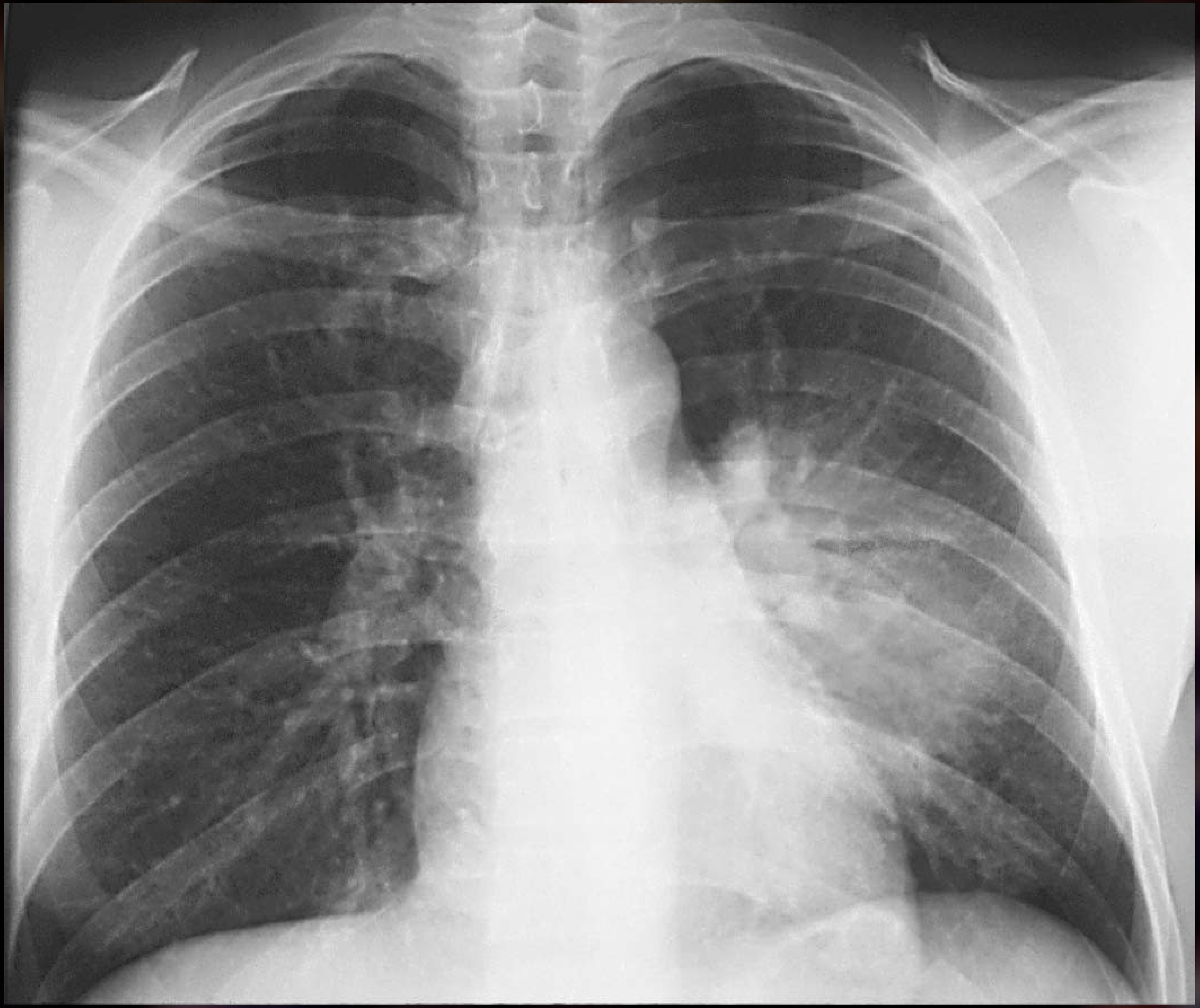
“Hazy”

“Fluffy”

“Cloud-like”

Bilateral perihilar airspace opacities
CHF with pulmonary edema

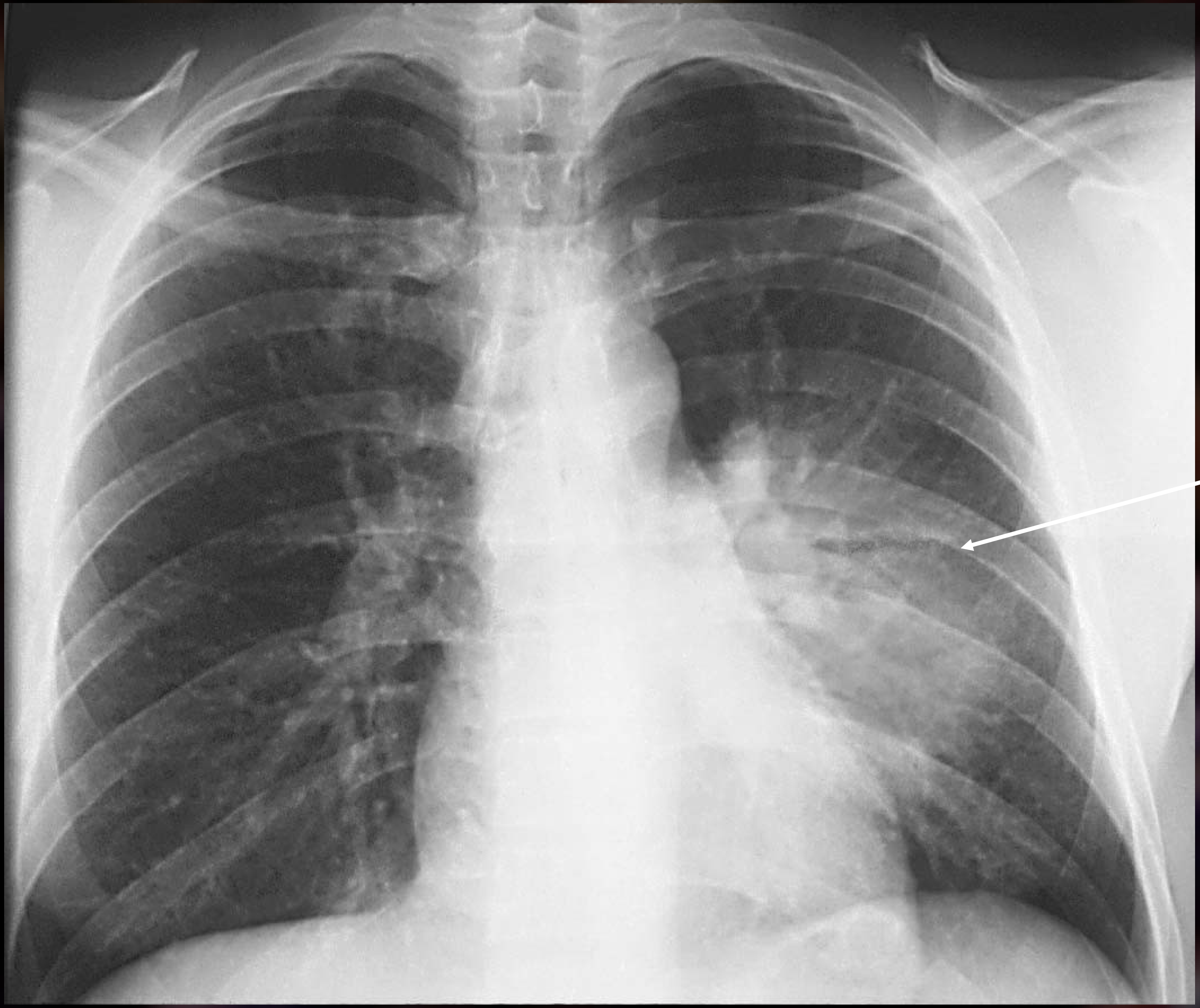
Chest Radiography: Airspace disease



Airspace opacities
When confluent and dense, airspace disease is termed "consolidation"

Can spare the bronchial tree, leaving aerated "air bronchograms"

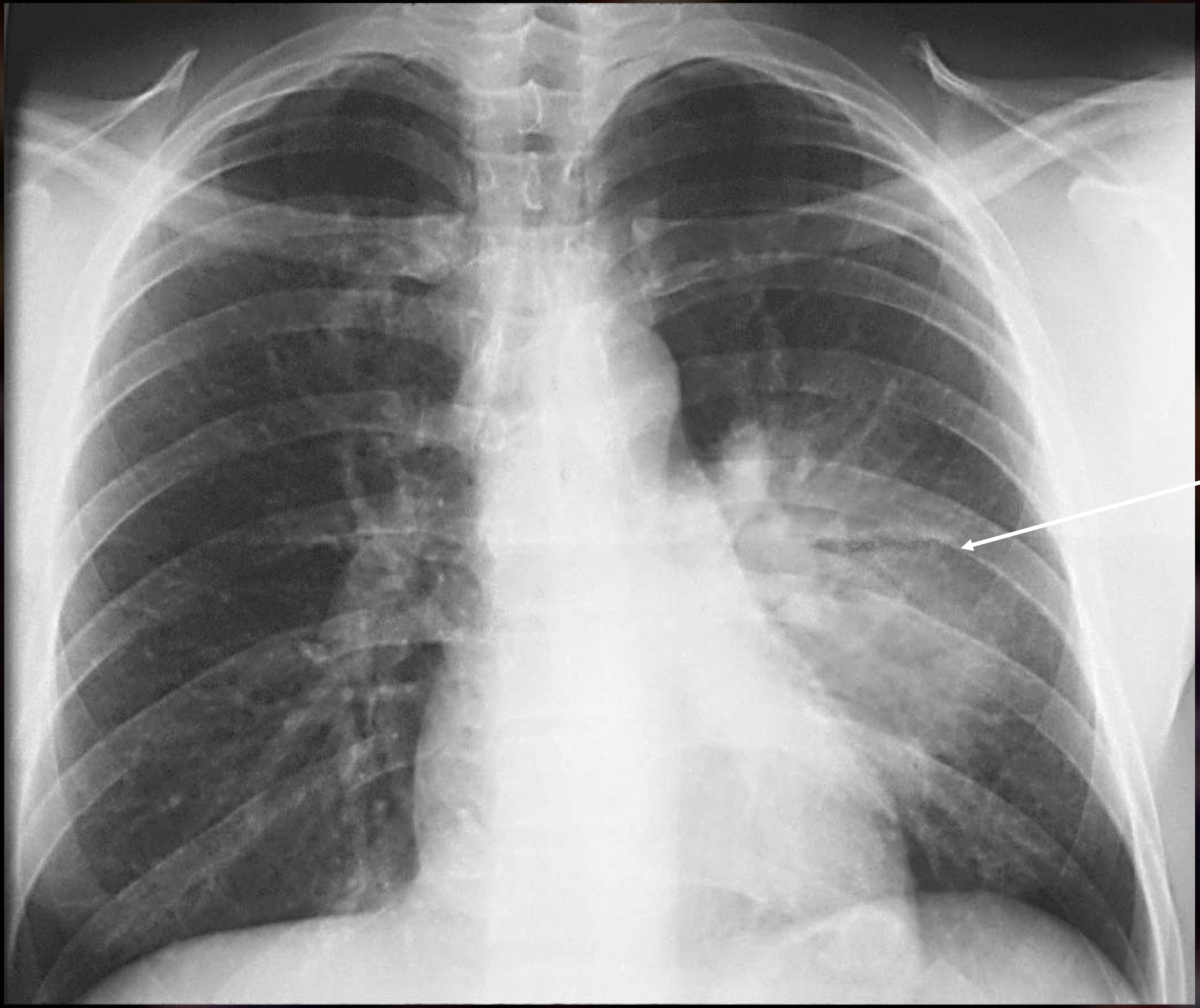
Chest Radiography: Airspace disease



Airspace opacities
When confluent and dense, airspace disease is termed "consolidation"

Can spare the bronchial tree, leaving aerated "air bronchograms"

Chest Radiography: Airspace disease



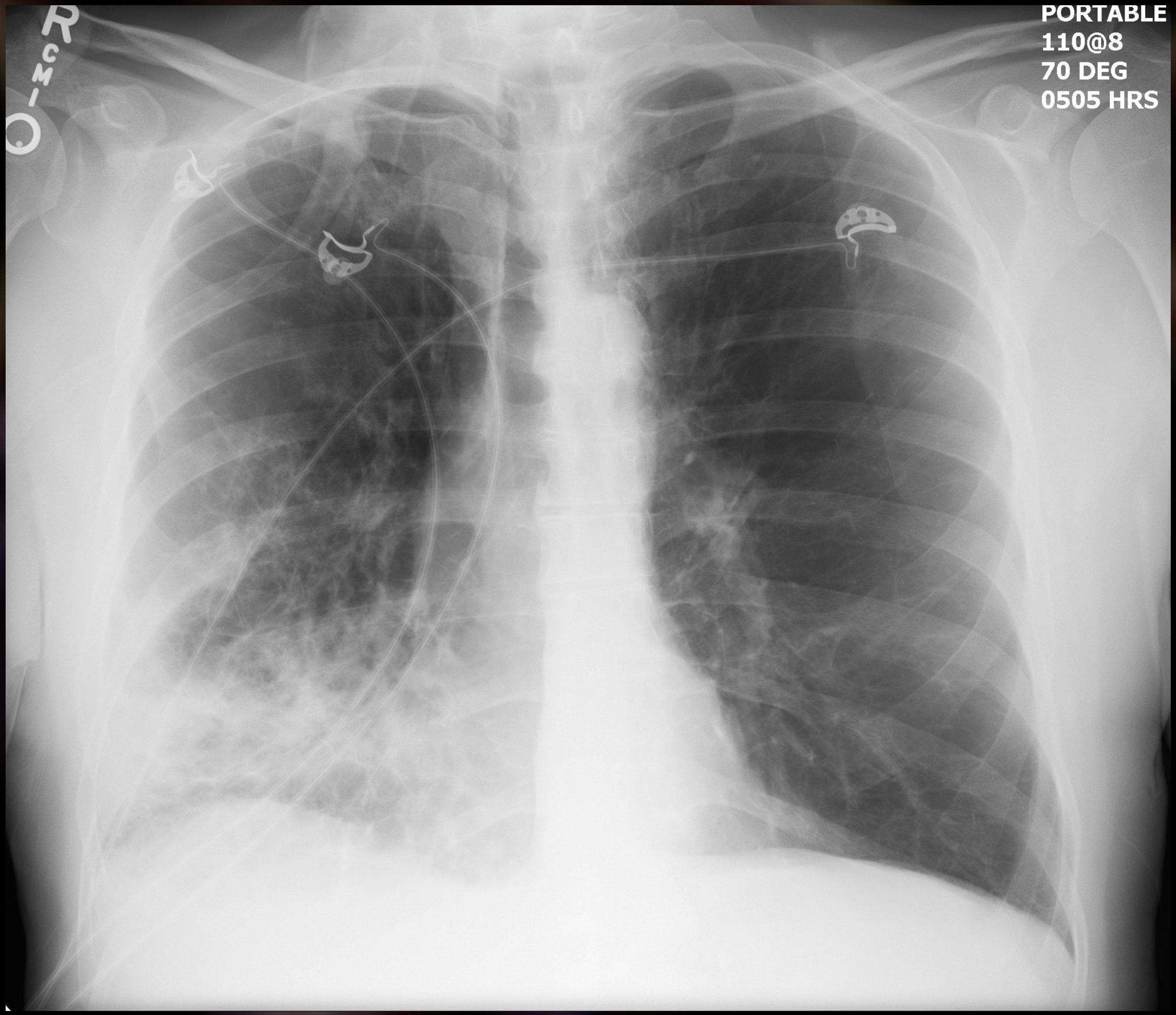
Airspace opacities

When confluent and dense, airspace disease is termed "consolidation"

Can spare the bronchial tree, leaving aerated "air bronchograms"

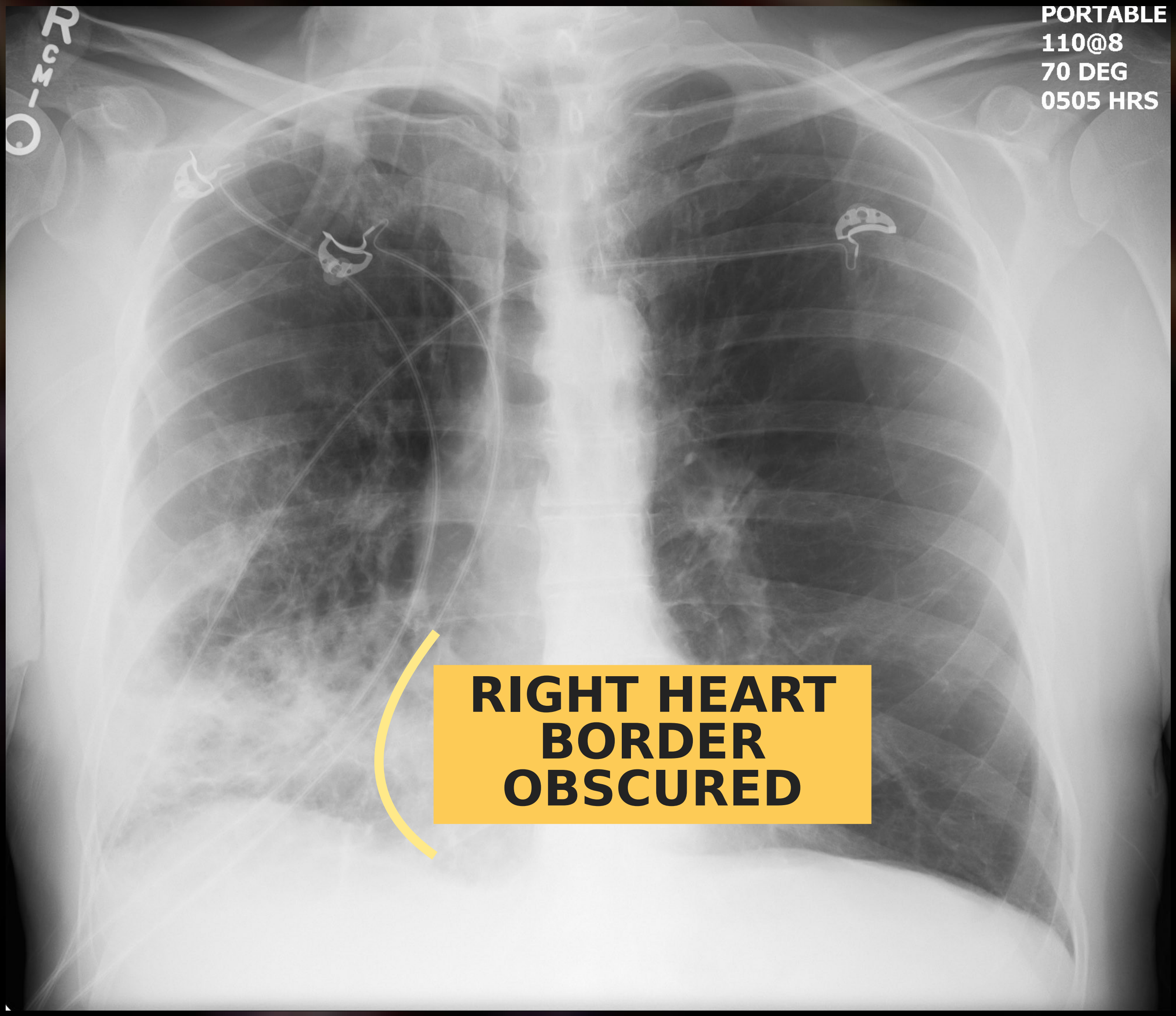
Left hilar consolidation with air bronchograms
Pneumonia

Chest Radiography: Airspace disease


R
CM-O
PORTABLE
110@8
70 DEG
0505 HRS

Airspace disease
Loss of normal interface between opacified airspaces and adjacent anatomy, termed the "silhouette sign."

Chest Radiography: Airspace disease



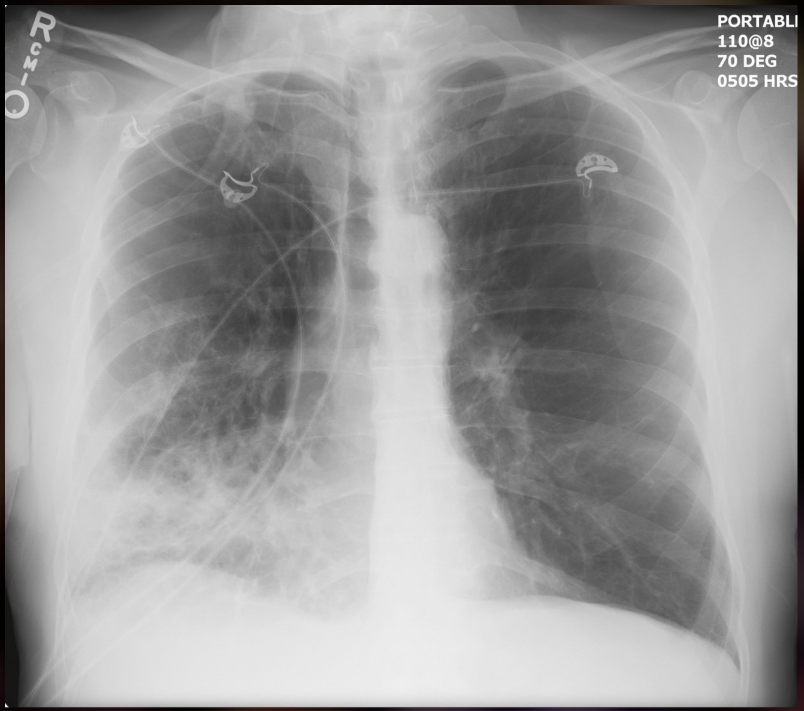
RIGHT HEART BORDER OBSCURED

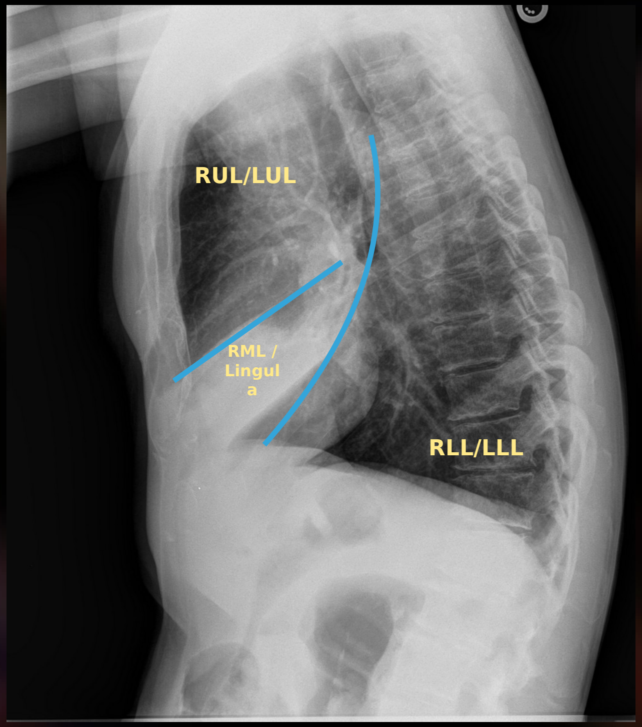
Airspace disease
Loss of normal interface between opacified airspaces and adjacent anatomy, termed the "silhouette sign."

Consolidation of right lower lung zone, obscuring the right heart border

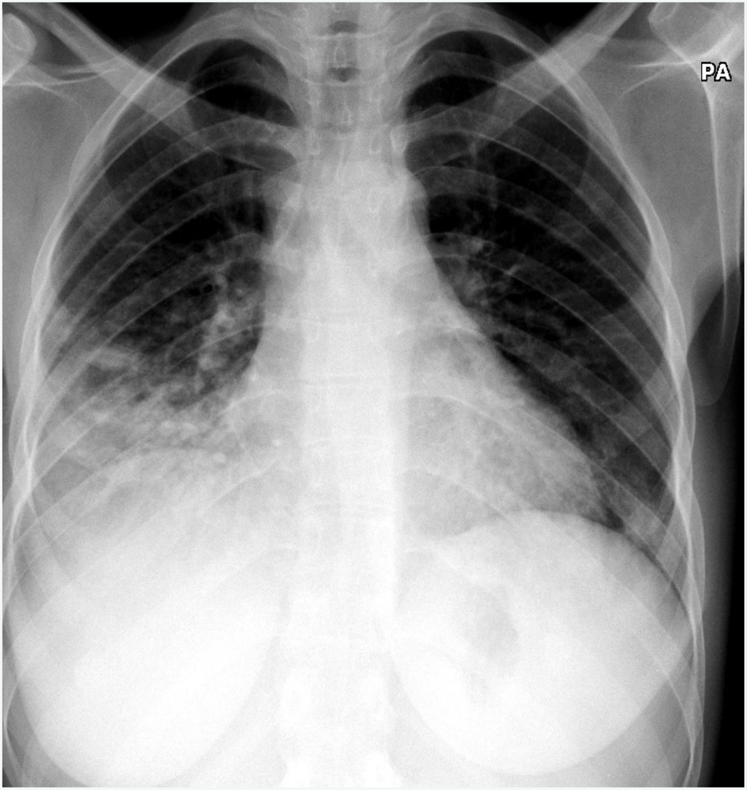
Right middle lobe pneumonia

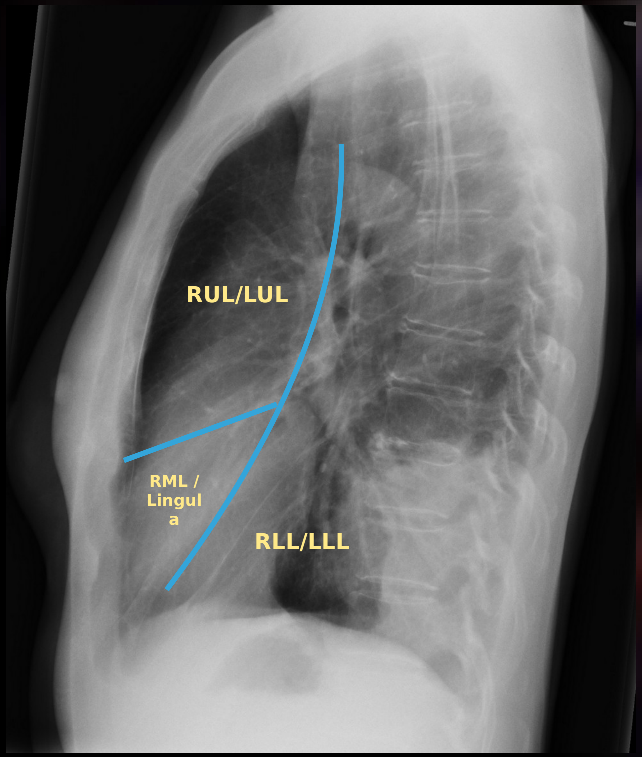
Chest Radiography: Airspace disease


R
PORTABLE
110@8
70 DEG
0505 HRS


RUL/LUL
RML / Lingula
RLL/LLL

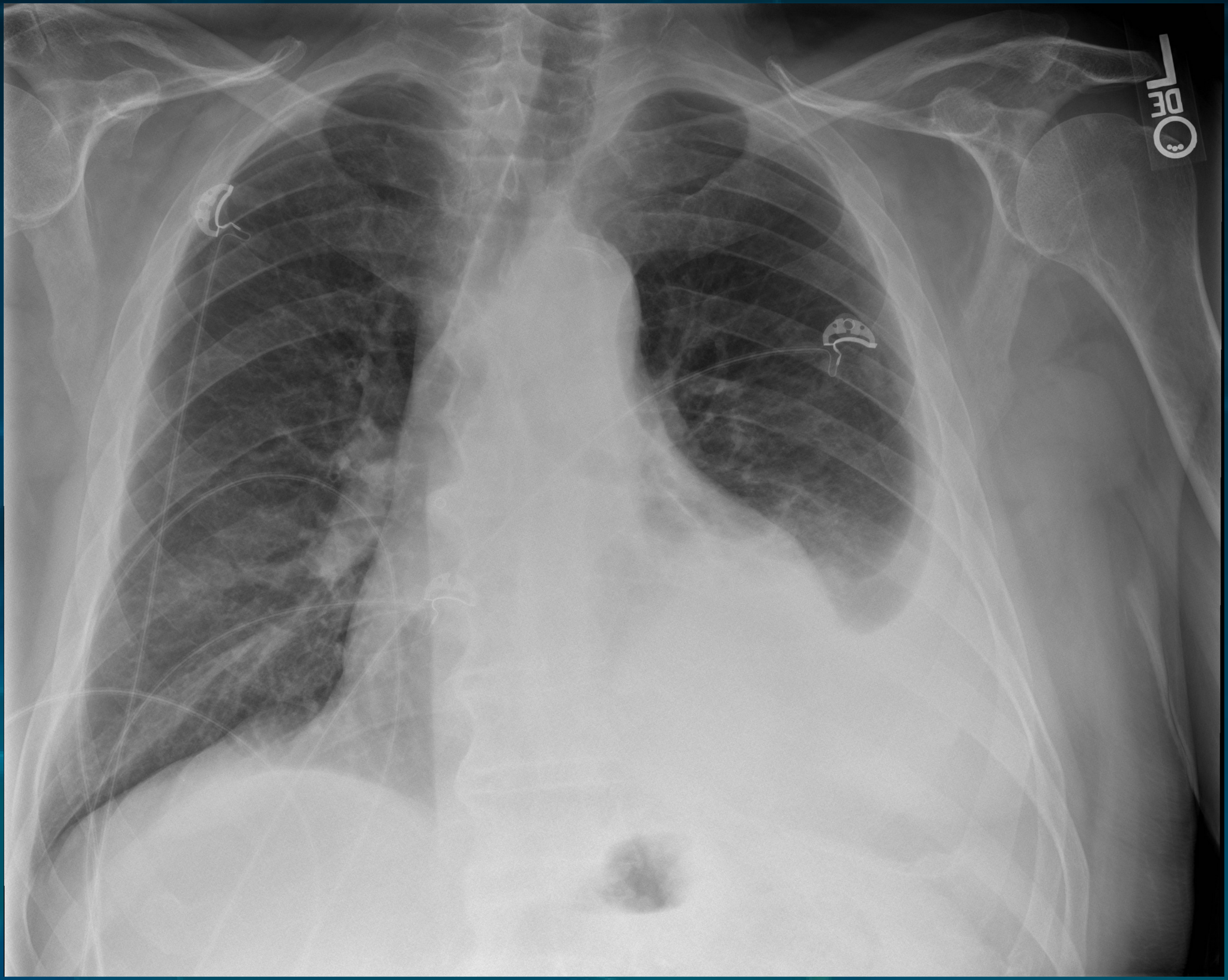
Right middle lobe pneumonia




RUL/LUL
RML / Lingula
RLL/LLL

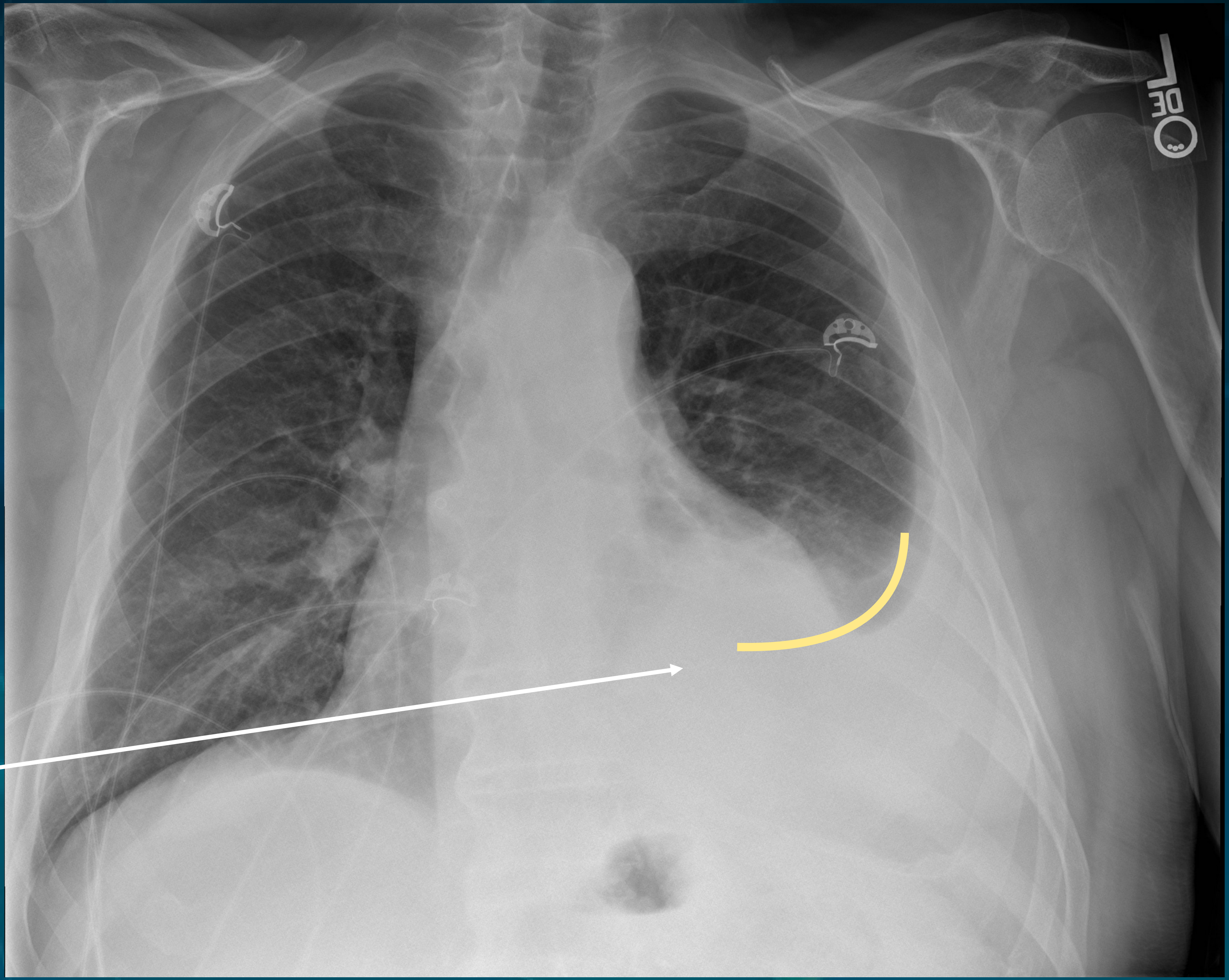
Right lower lobe pneumonia

Chest Radiography:



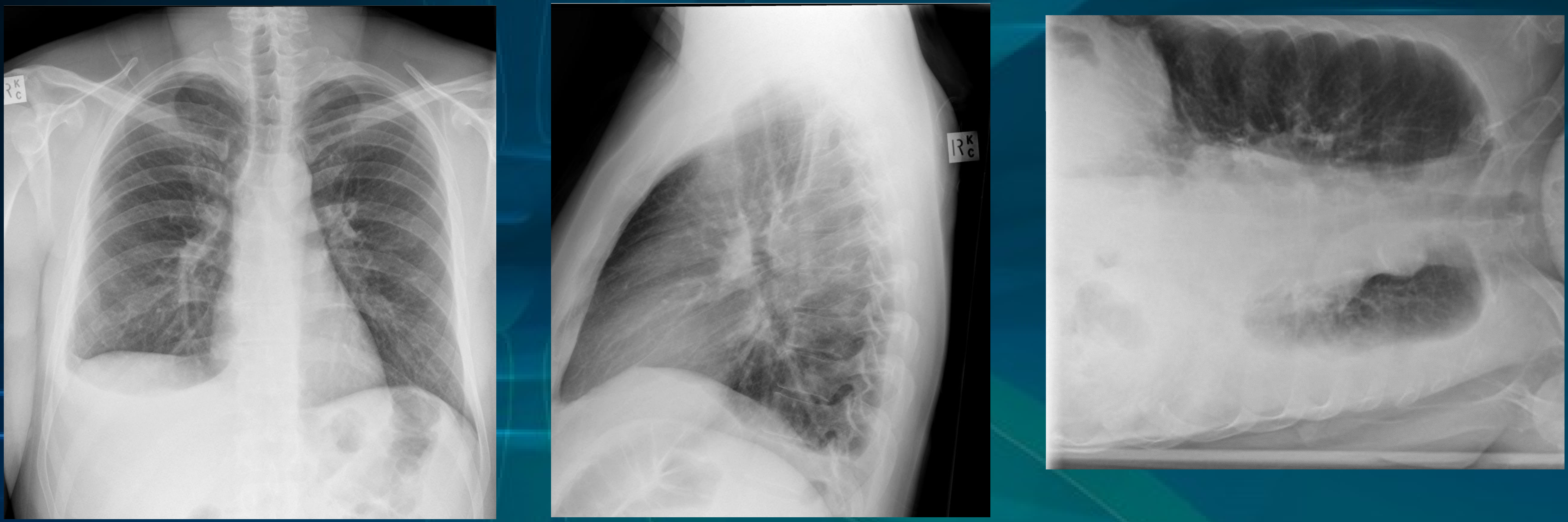
Chest Radiography:

Pleural effusion
Confluent opacity, usually dependent, and causing "meniscus sign" in upright patients

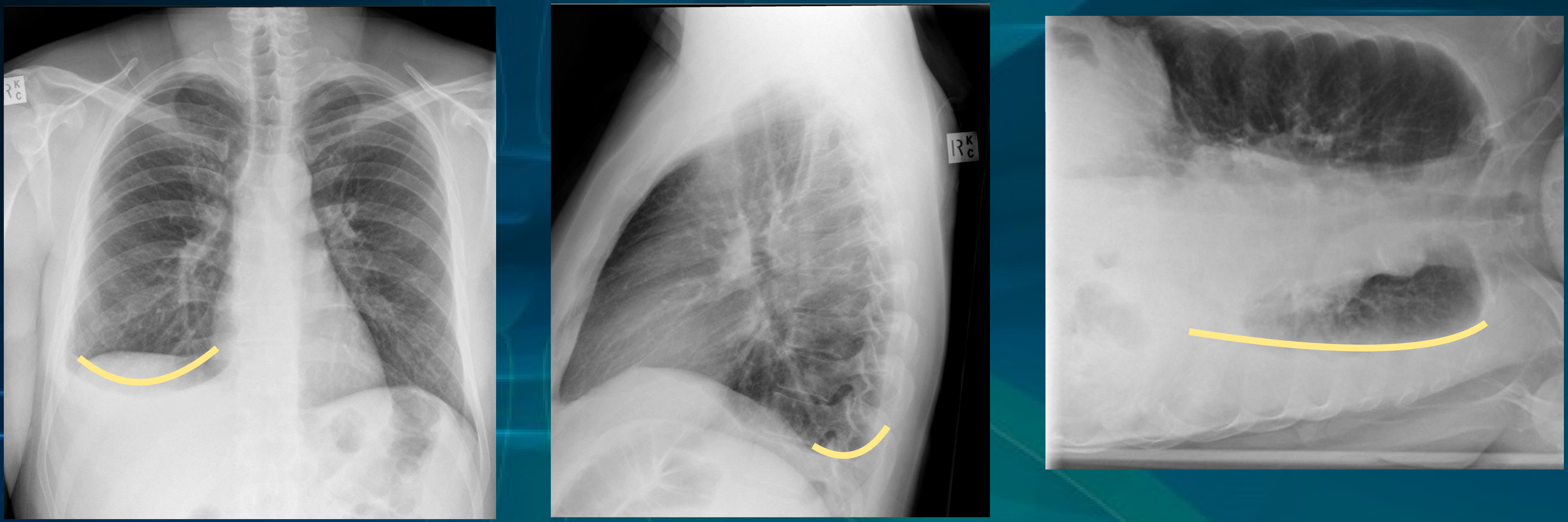


Moderate layering left pleural effusion

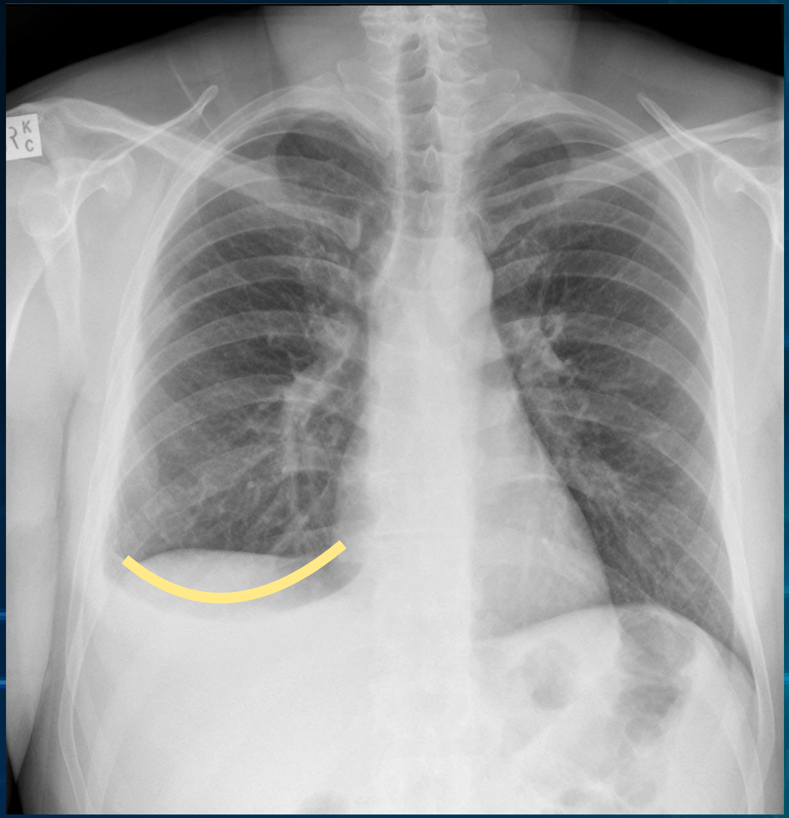
Chest Radiography: Pleural effusion



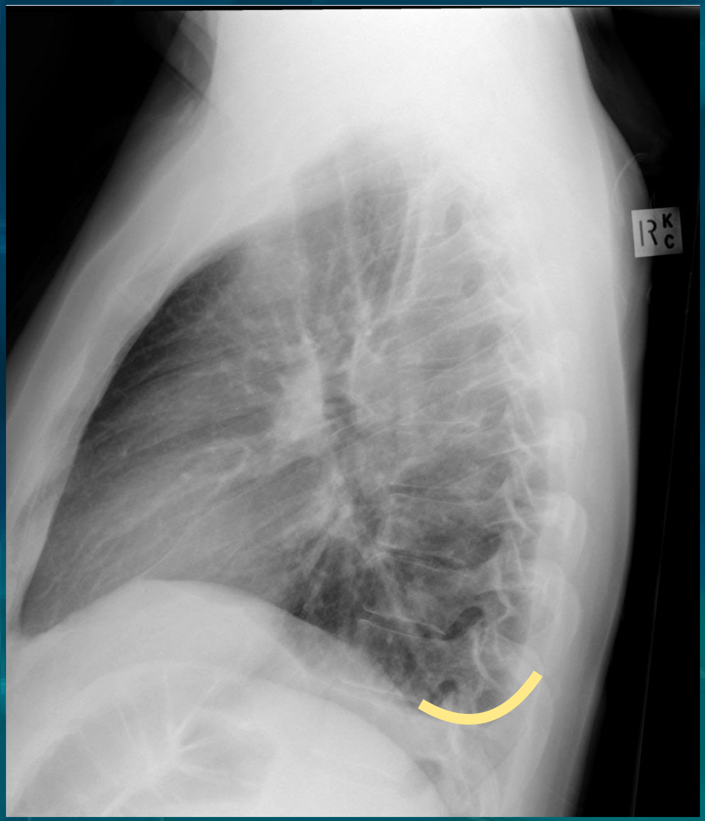
Chest Radiography: Pleural effusion



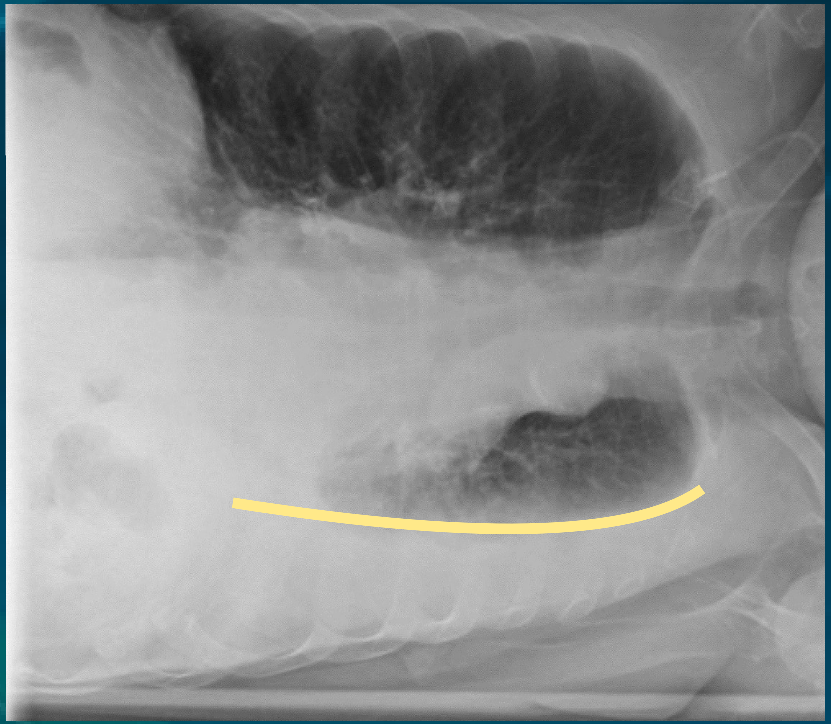
Chest Radiography: Pleural effusion



Meniscus at lateral costophrenic sulcus

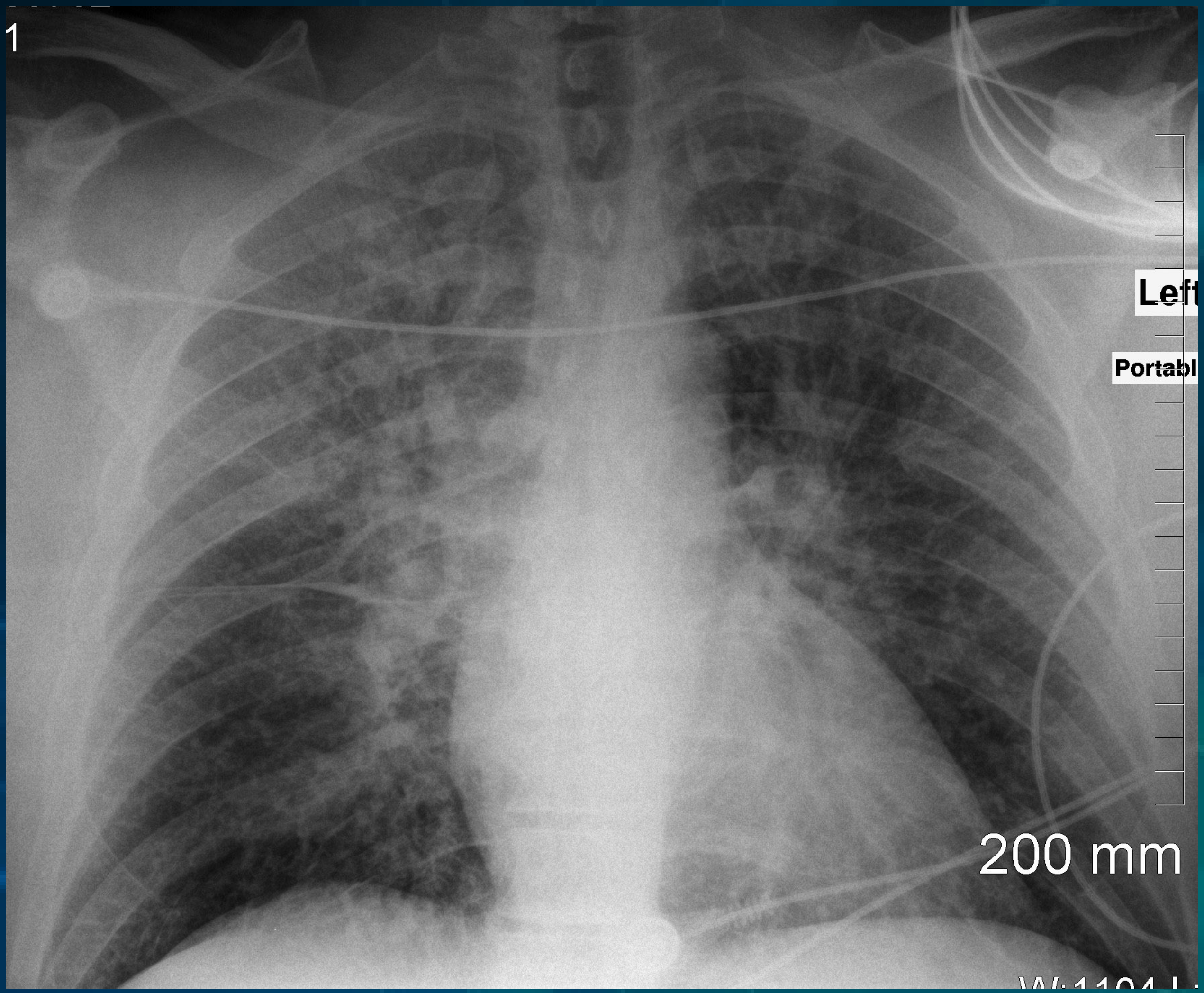


Meniscus at posterior costophrenic sulcus, more sensitive

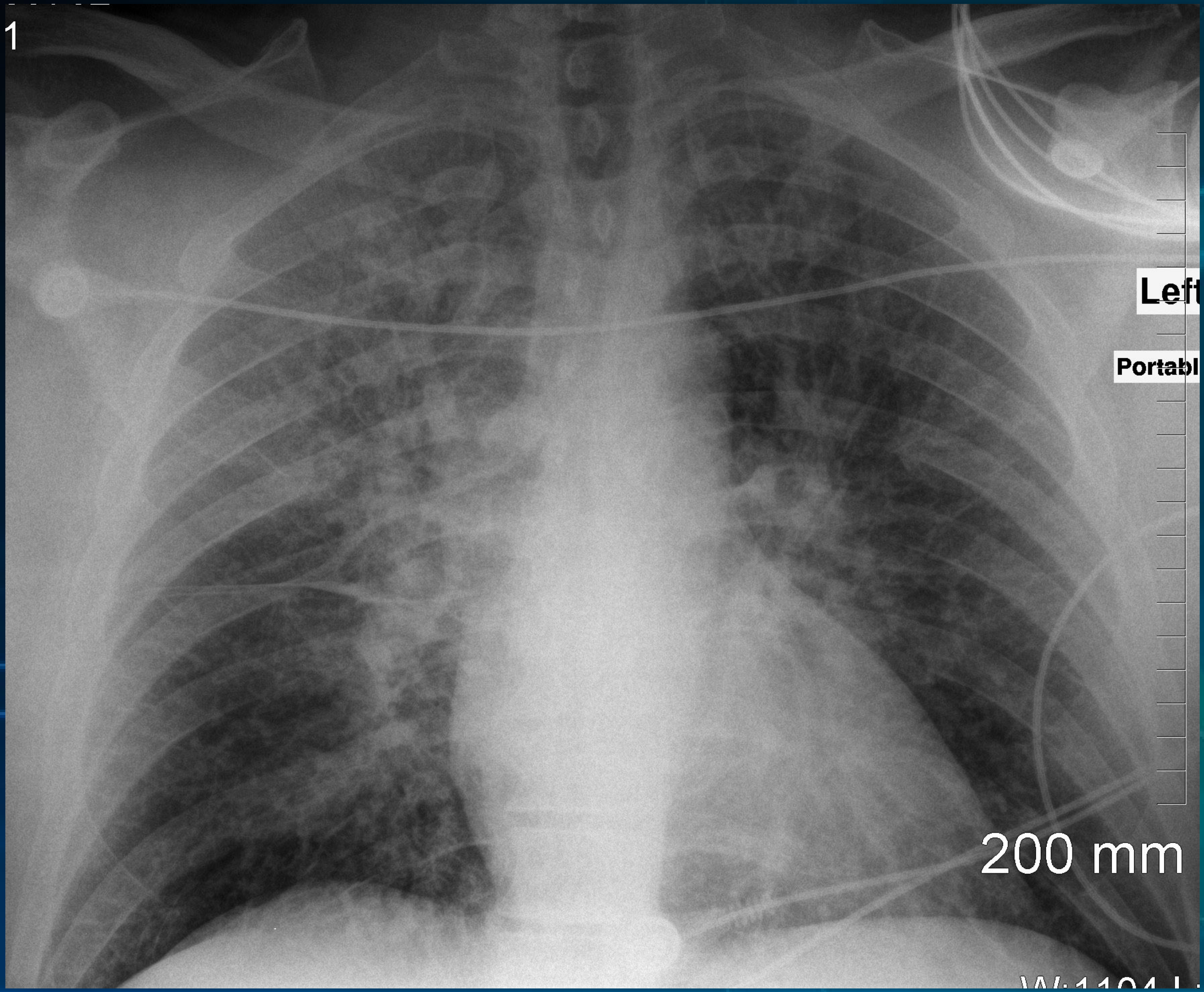


Meniscus in a decubitus patient, most sensitive

Chest Radiography:


1
Left
Portabl
200 mm

Chest Radiography: Fluid overload

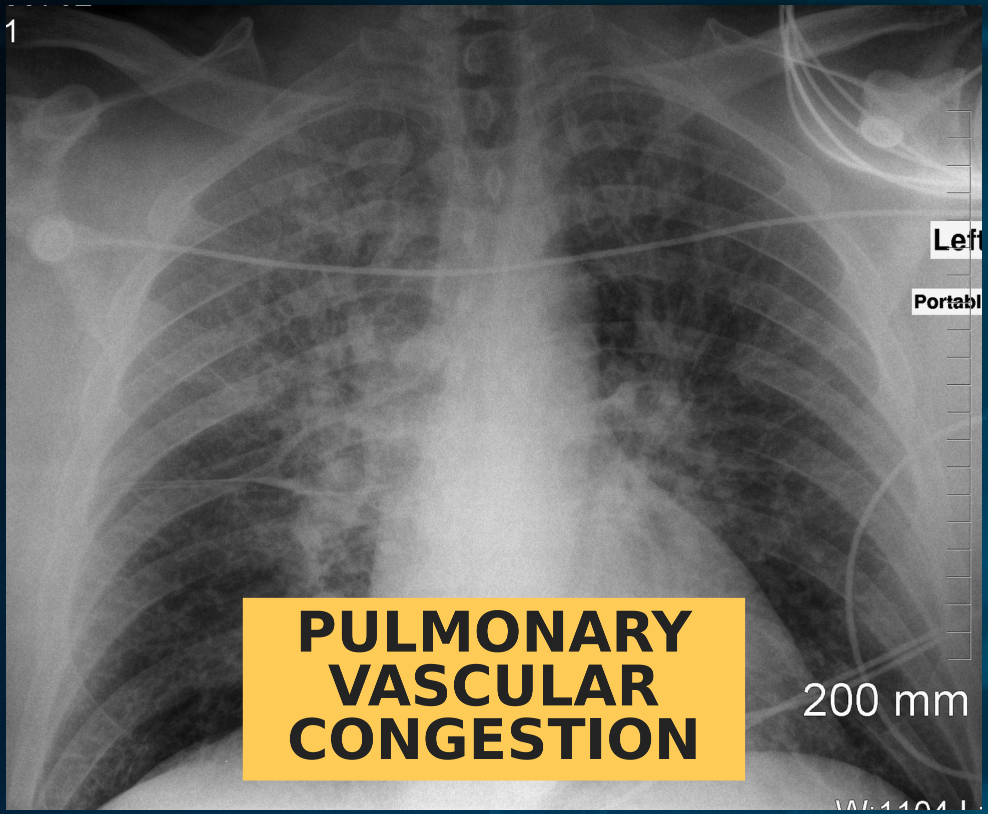


Pulmonary vascular congestion

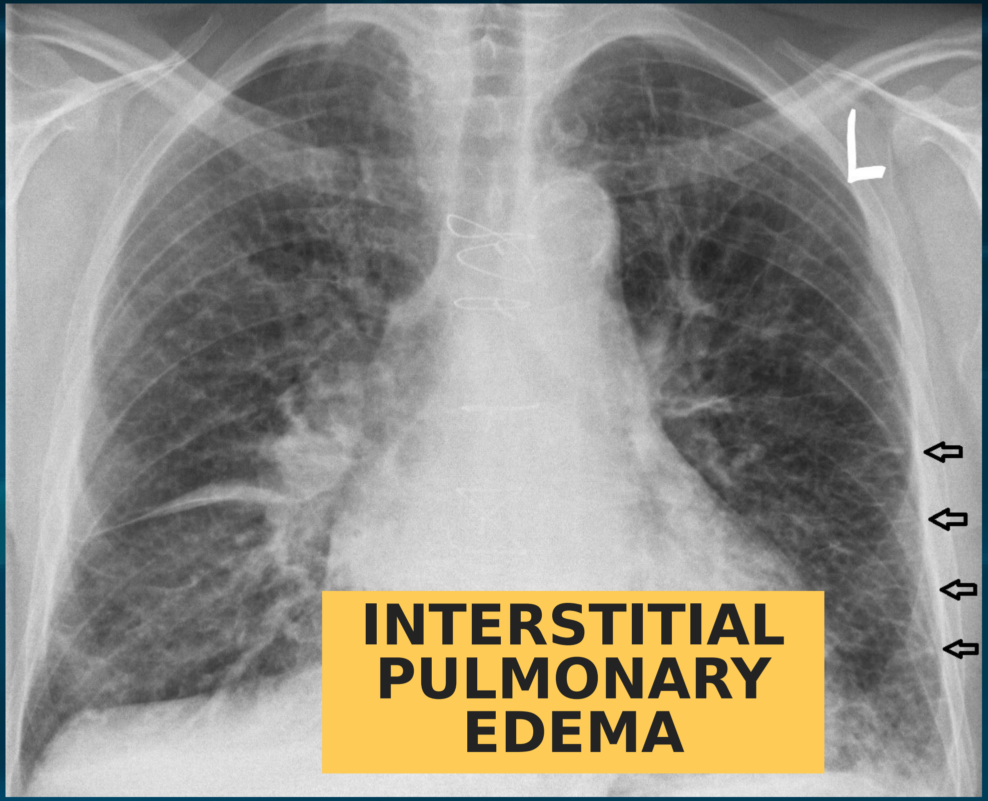
Normally, pulmonary vessels taper, and should not be readily visible peripherally

Congested vessels are larger, and are visible to the periphery of the lung

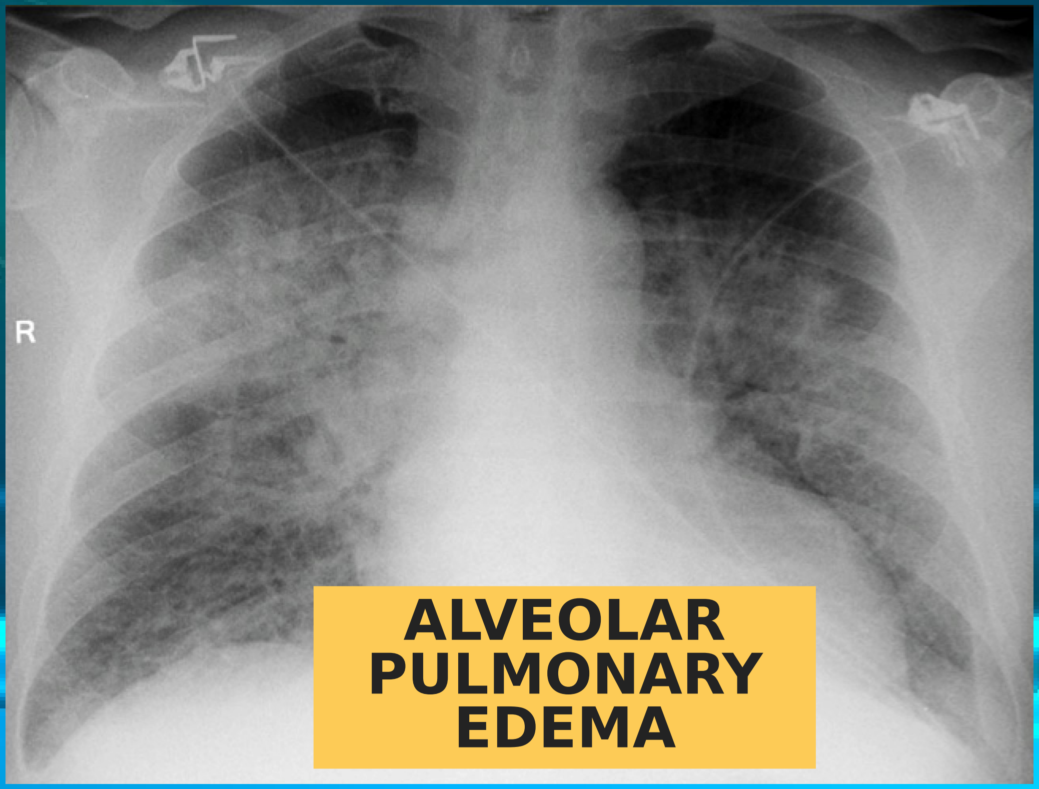
Chest Radiography: Fluid overload


1
Left
Portabl
200 mm

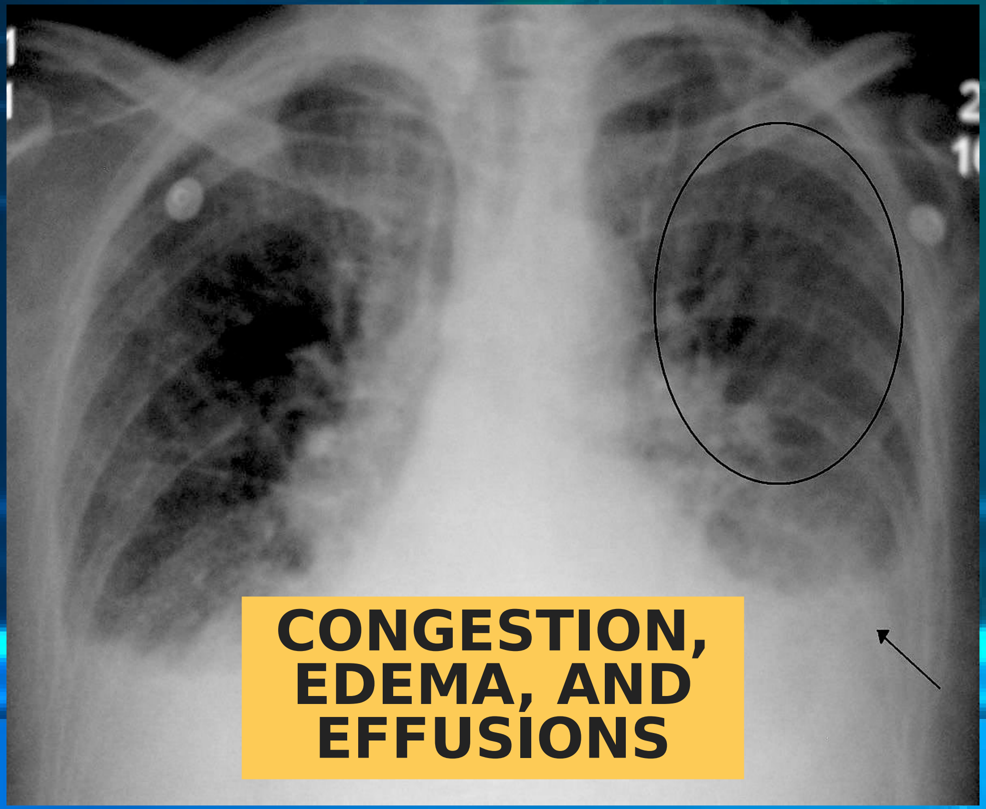
PULMONARY VASCULAR CONGESTION



INTERSTITIAL PULMONARY EDEMA

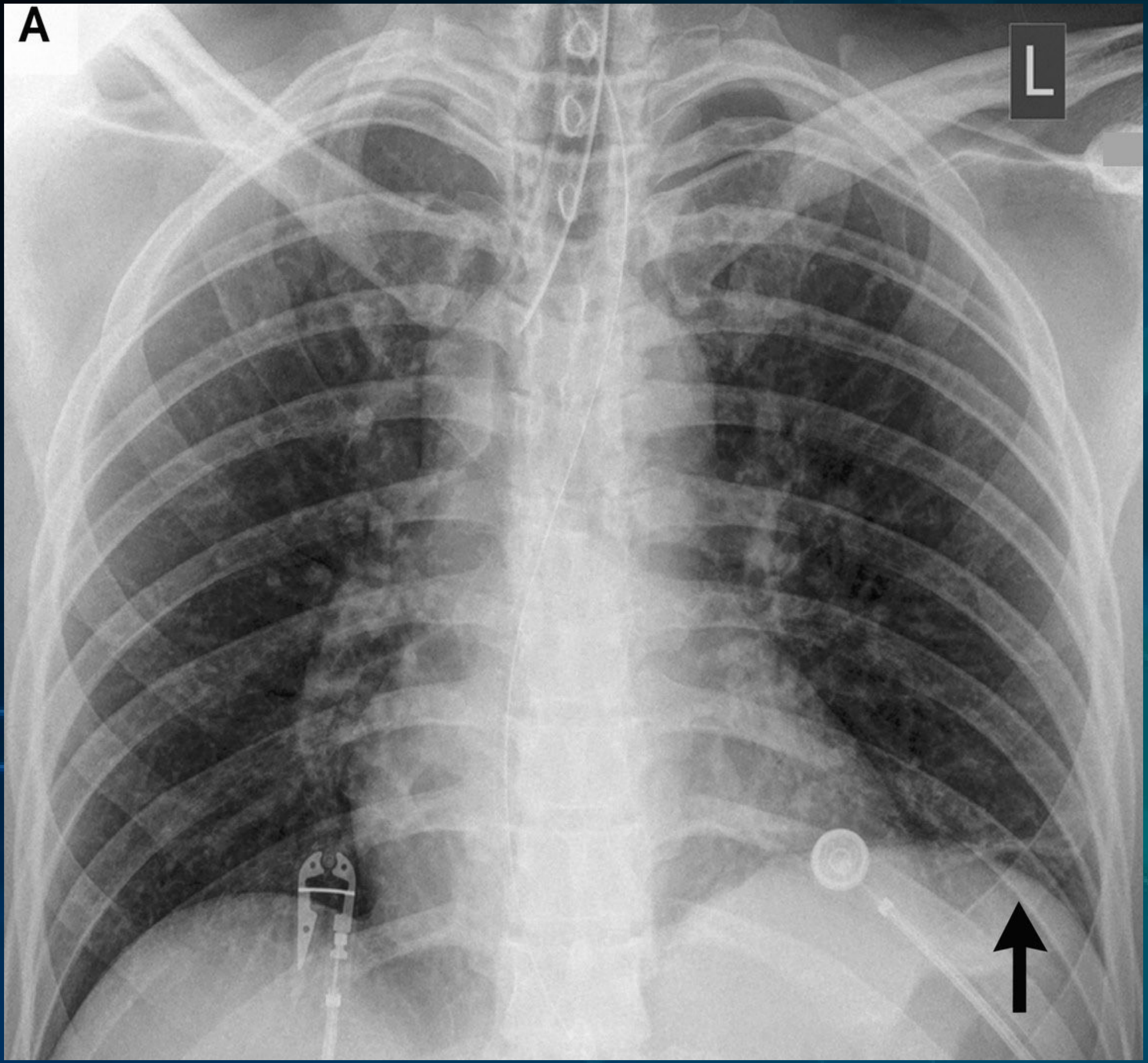


ALVEOLAR PULMONARY EDEMA

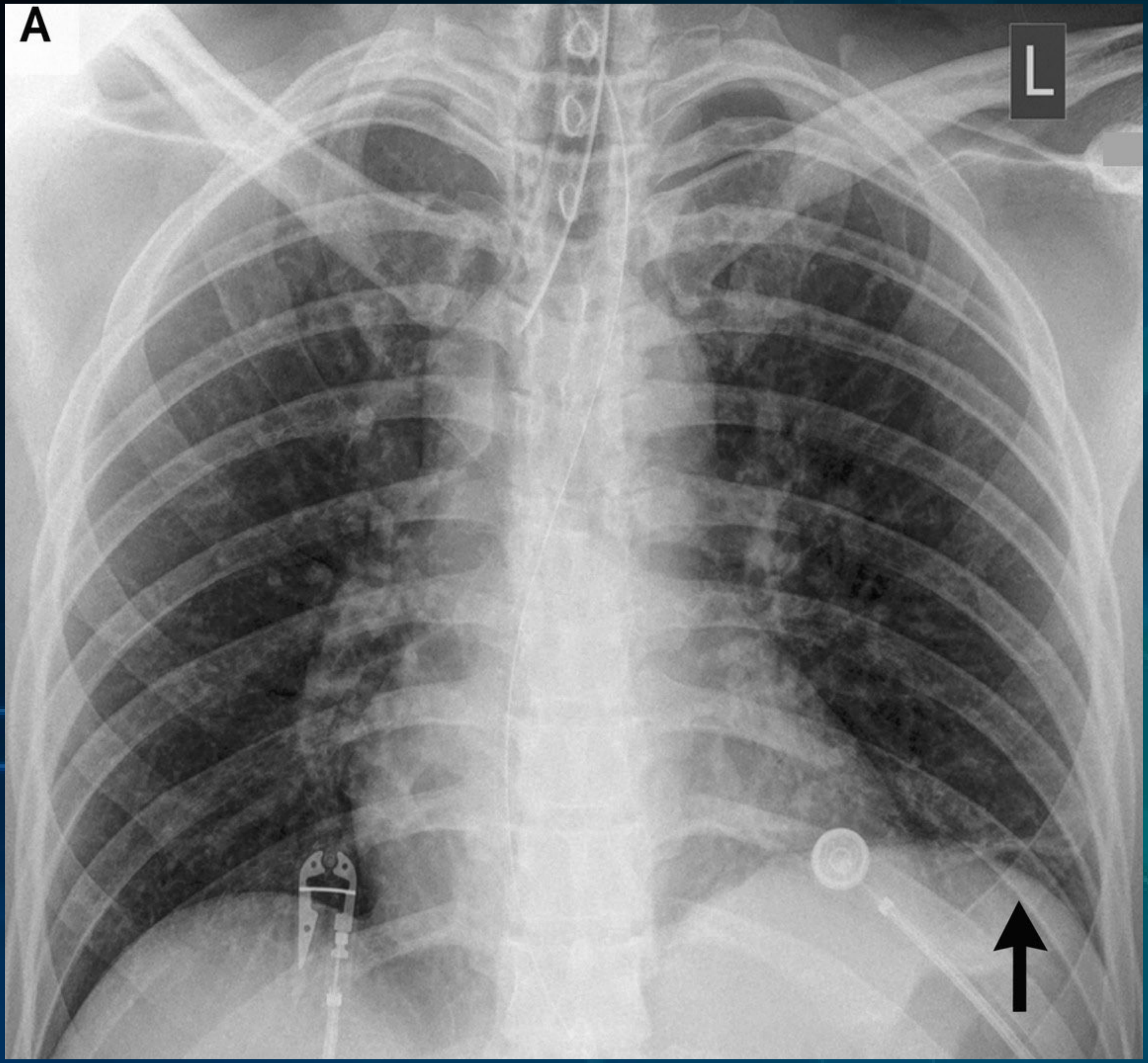


CONGESTION, EDEMA, AND EFFUSIONS

Chest Radiography:



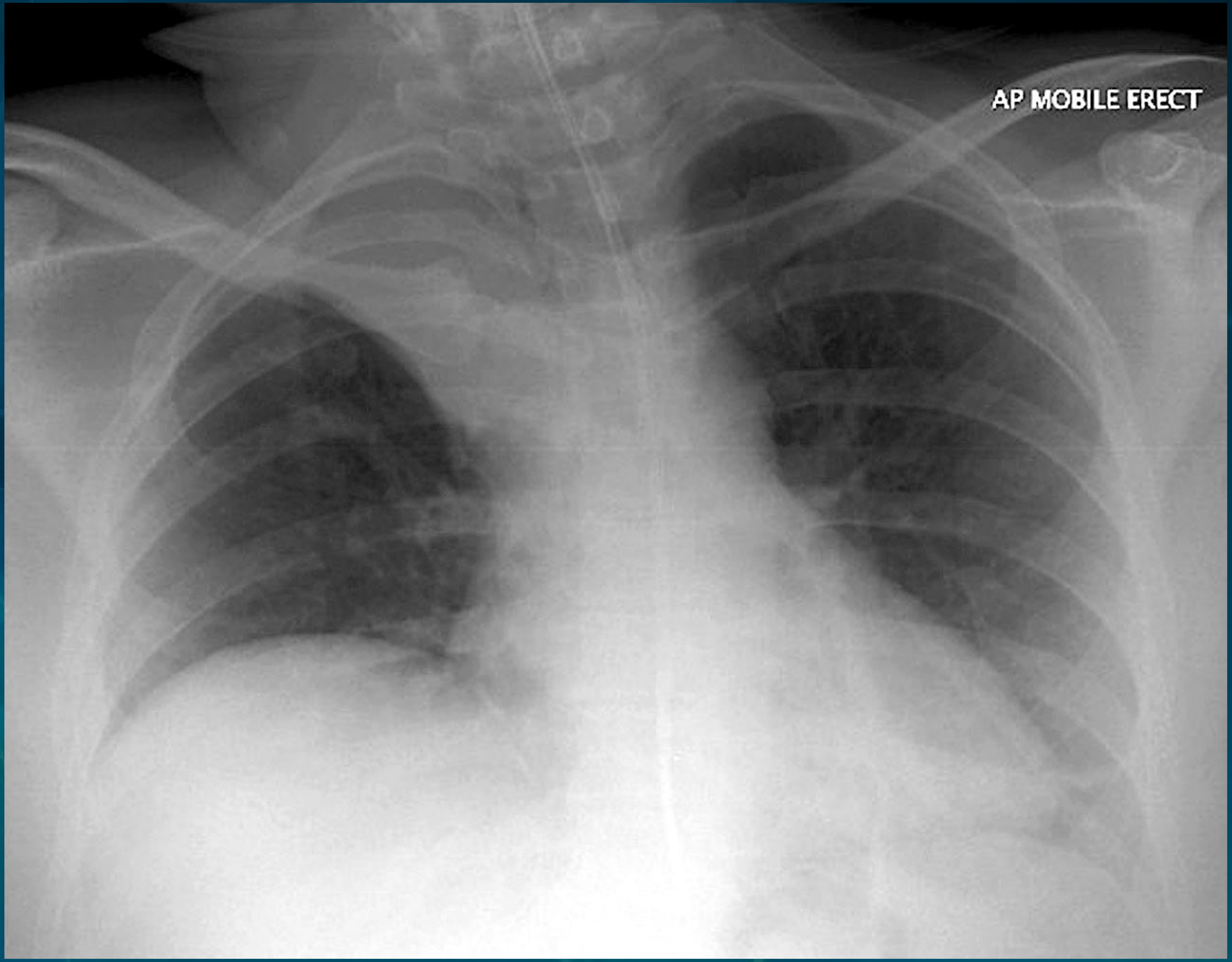
Chest Radiography: Atelectasis



Atelectasis
Opacification due to collapse of airspaces

"Discoid" or "platelike" atelectasis is a common finding in the lung bases

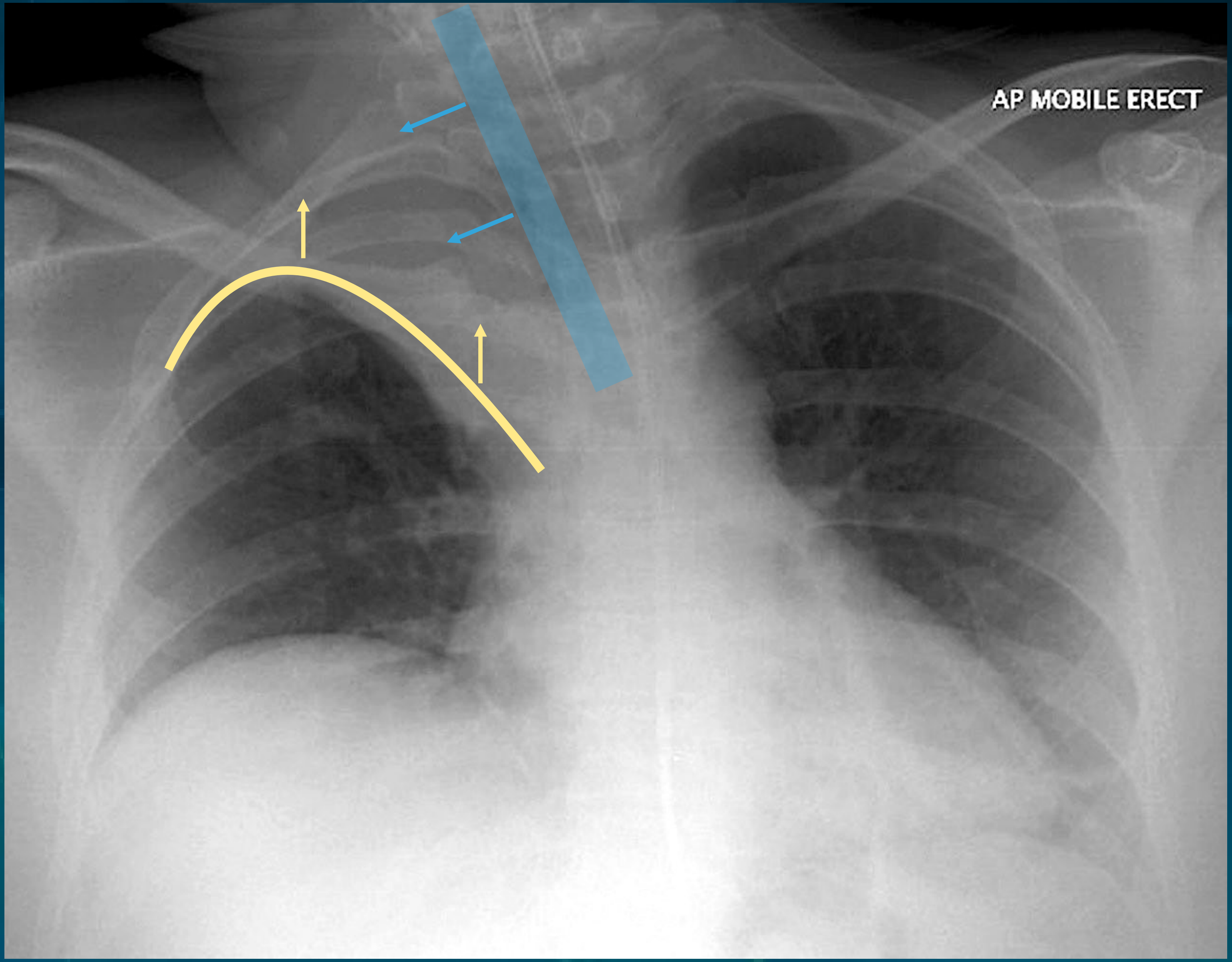
Chest Radiography: Atelectasis


AP MOBILE ERECT

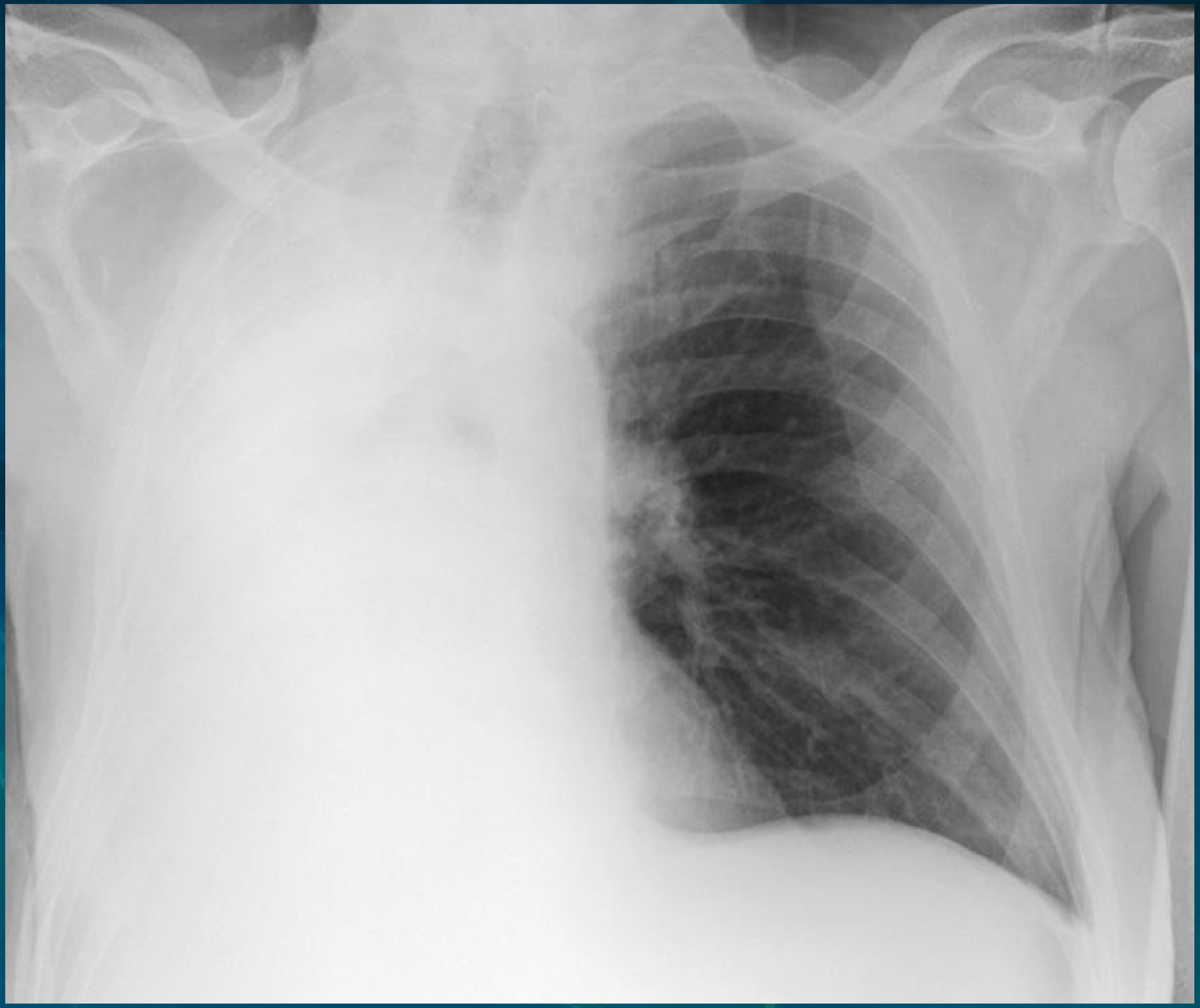
Chest Radiography: Atelectasis

Atelectasis

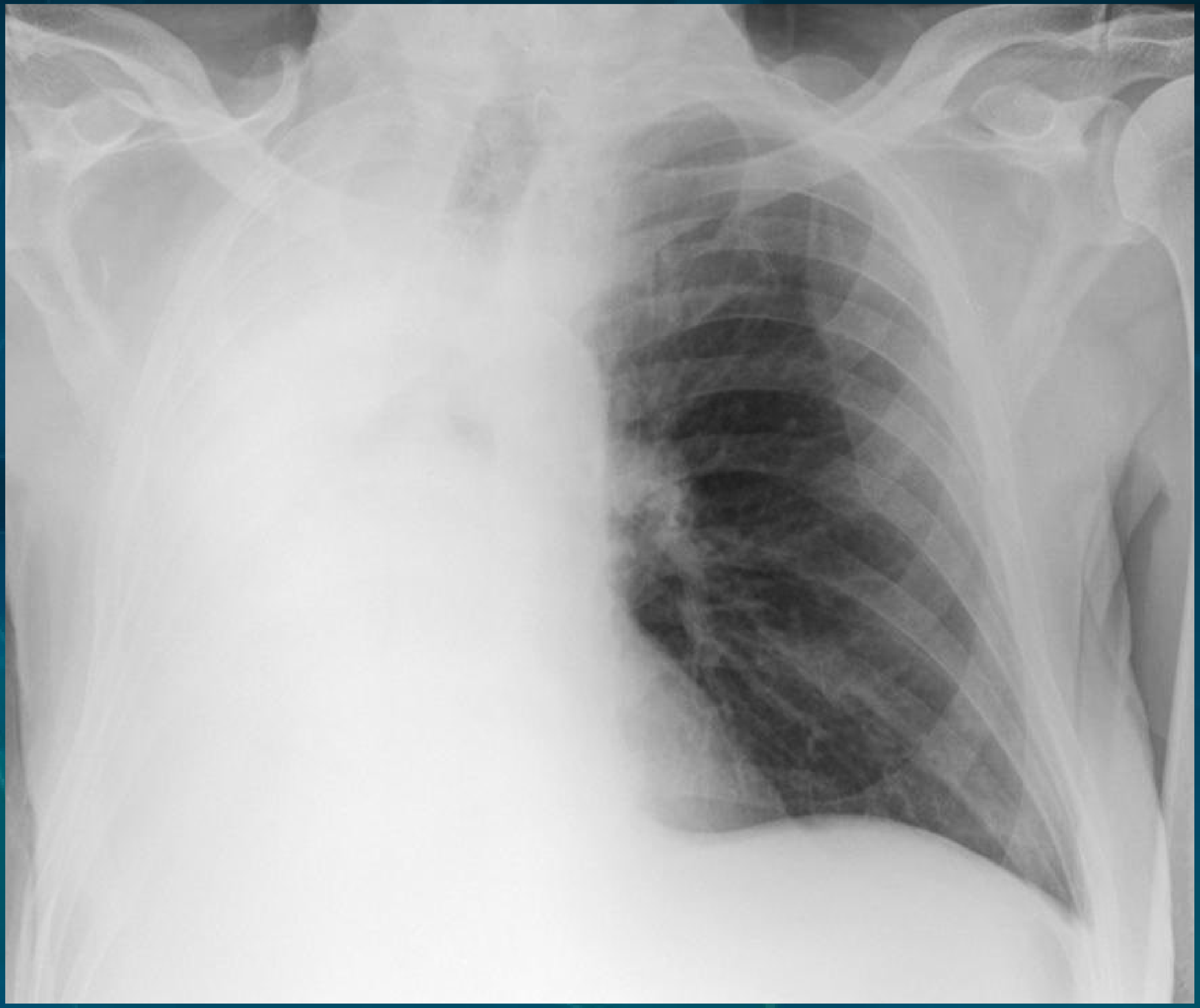
Right upper lobar atelectasis showing signs of volume loss, including distortion of fissures and shift of trachea



Chest Radiography: Atelectasis



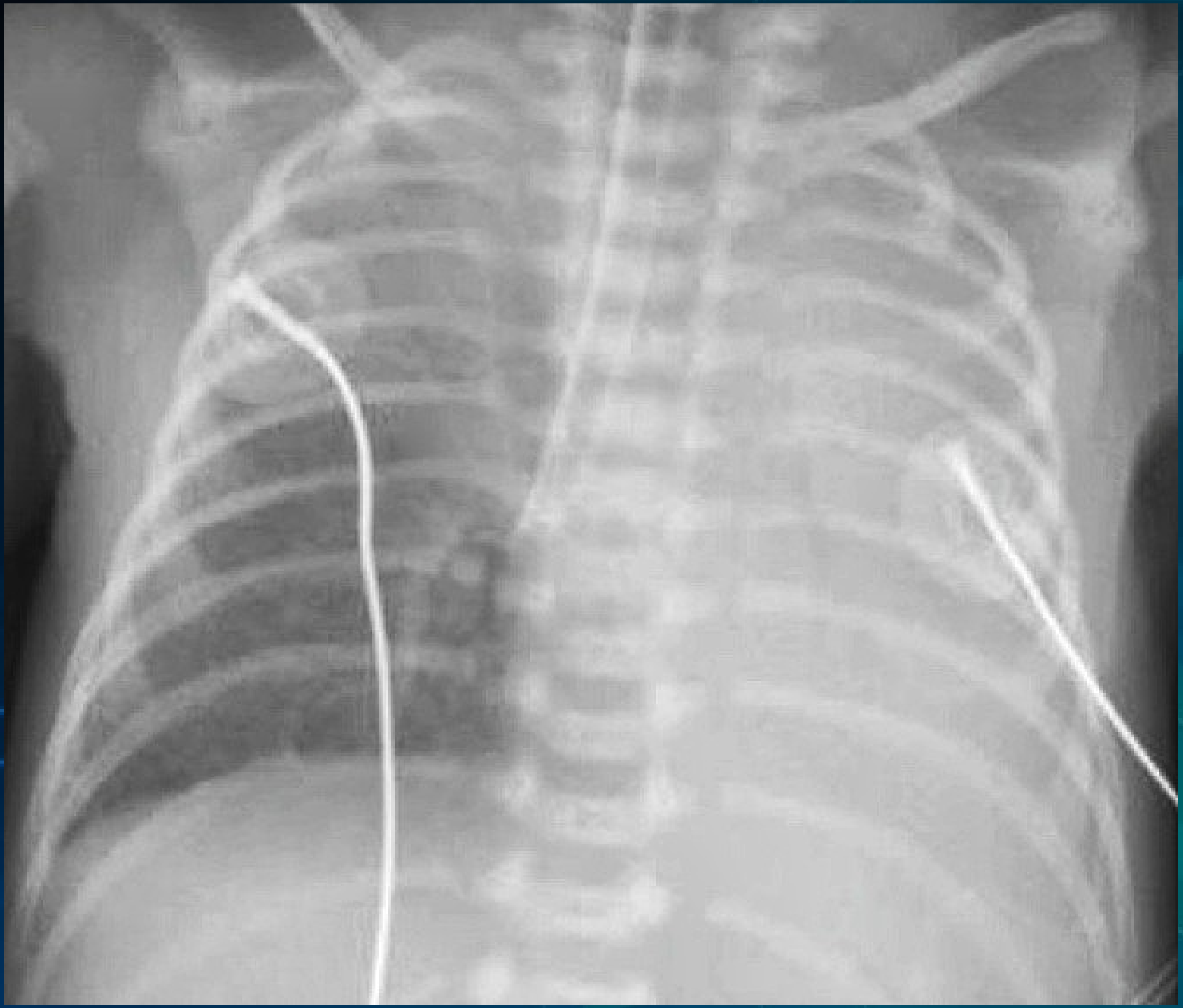
Chest Radiography: Atelectasis



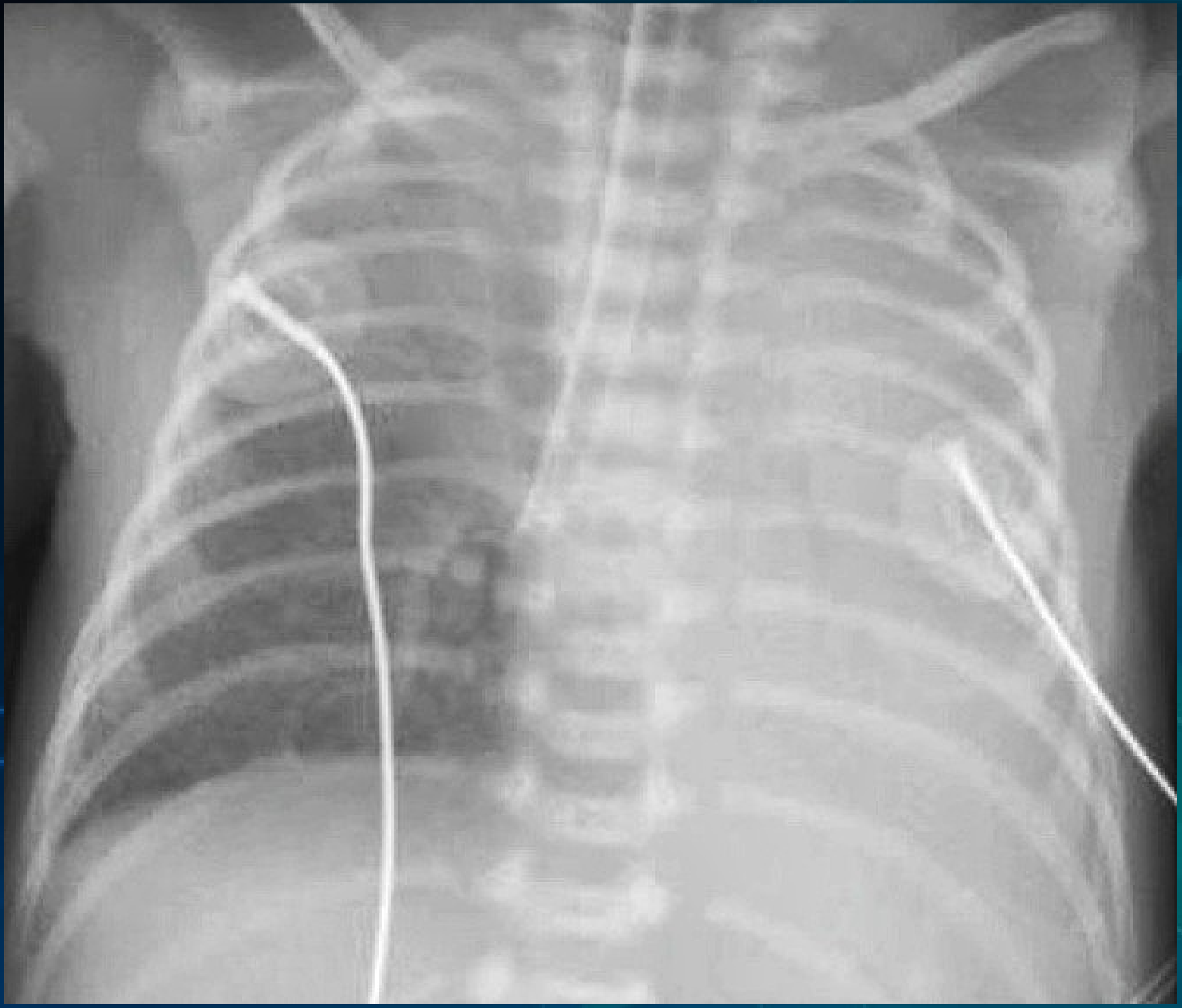
Atelectasis

Total right lung atelectasis, with rightward shift of the mediastinum

Chest Radiography: Atelectasis

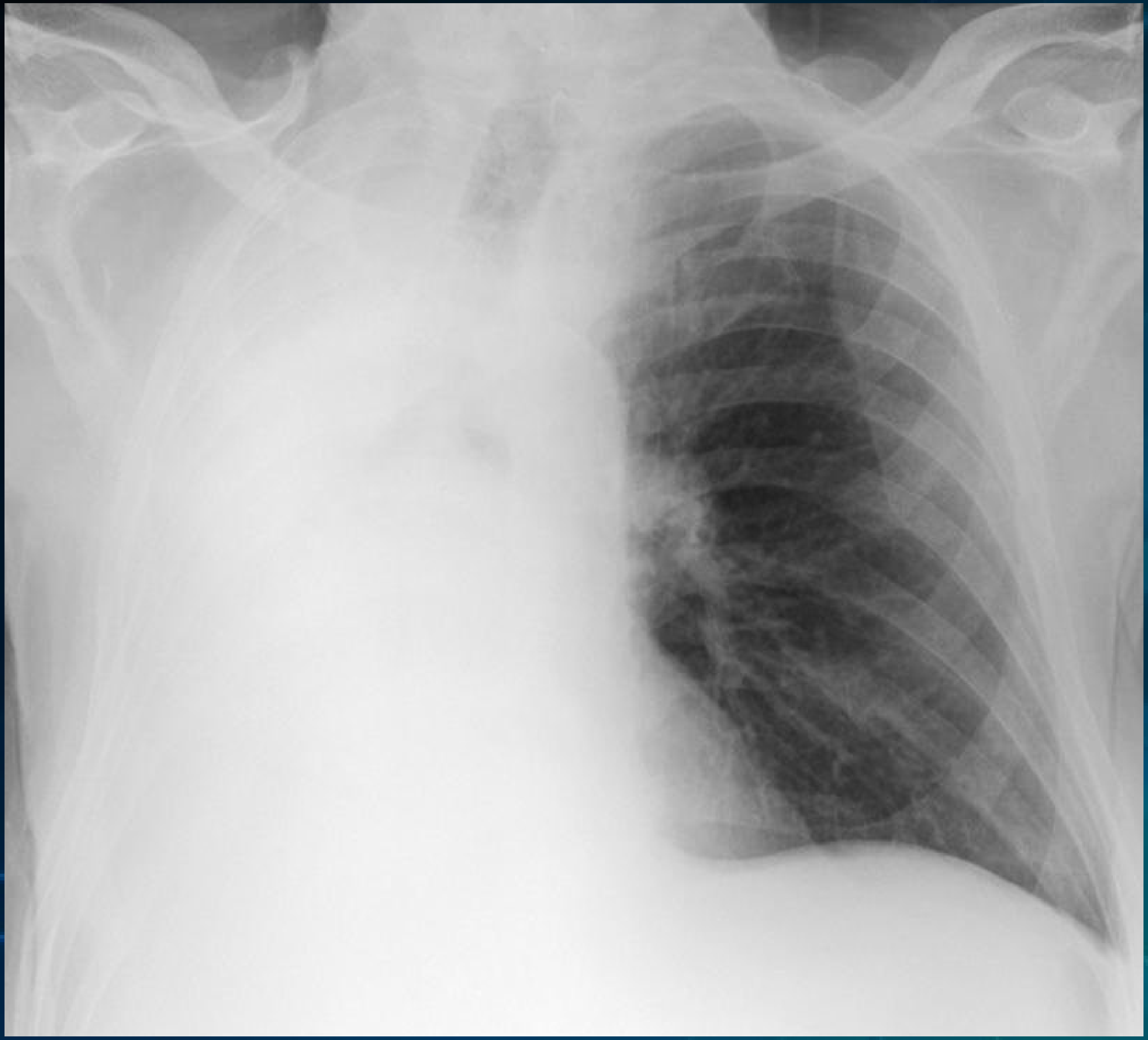


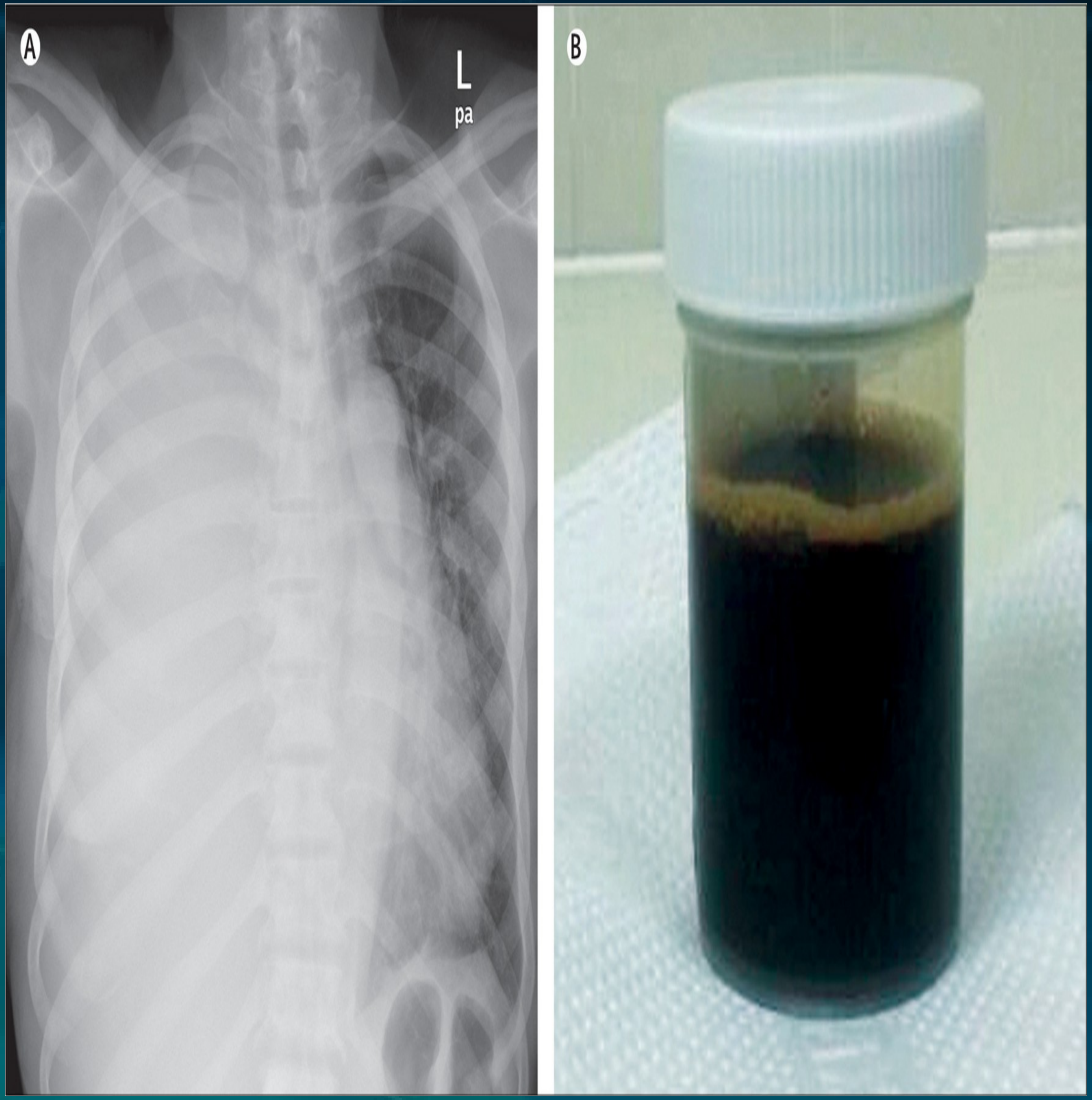
Chest Radiography: Atelectasis



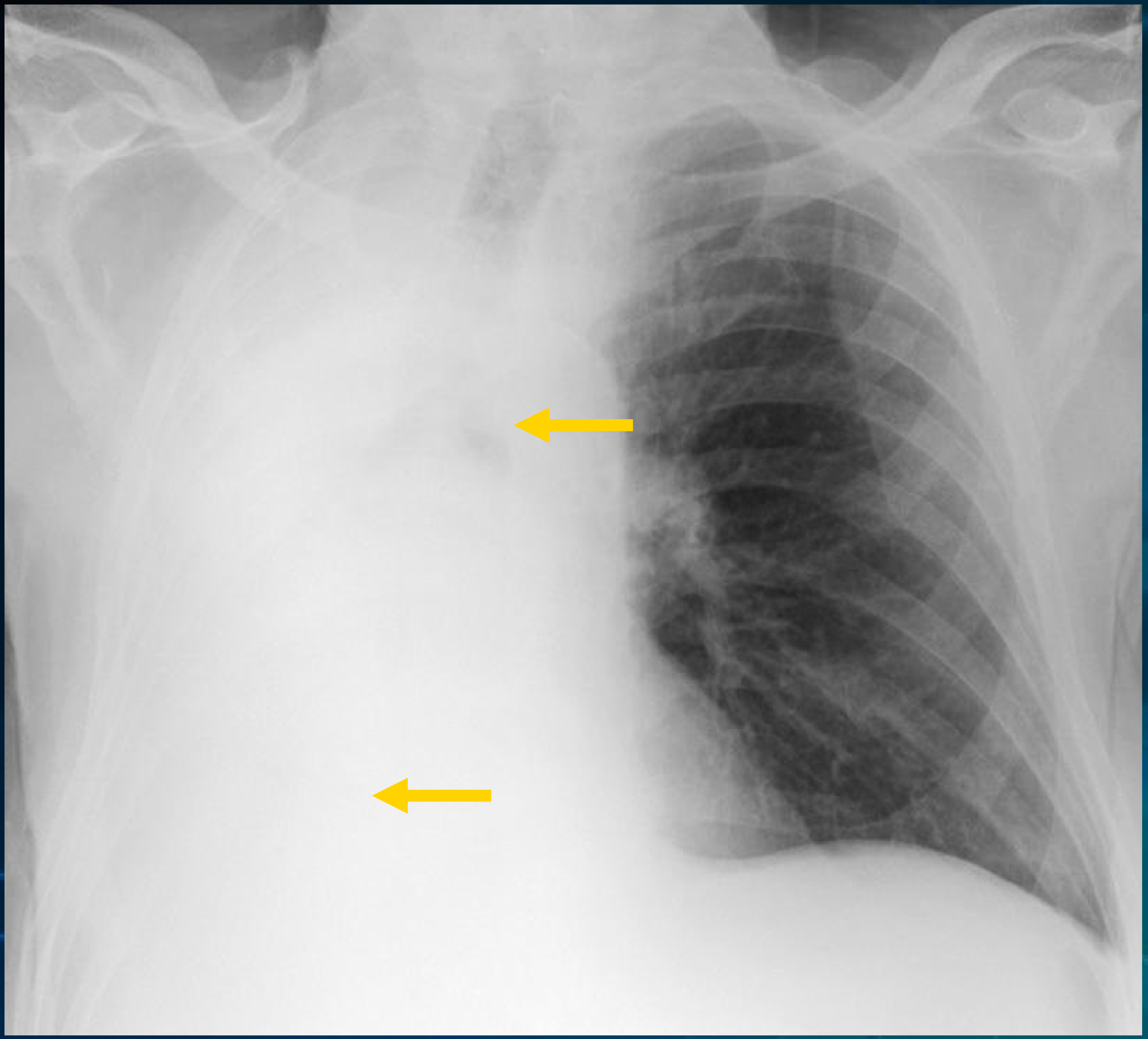
ET tube malposition causing occlusion of left mainstream bronchus, and total left lung atelectasis

Chest Radiography: Atelectasis vs Effusion



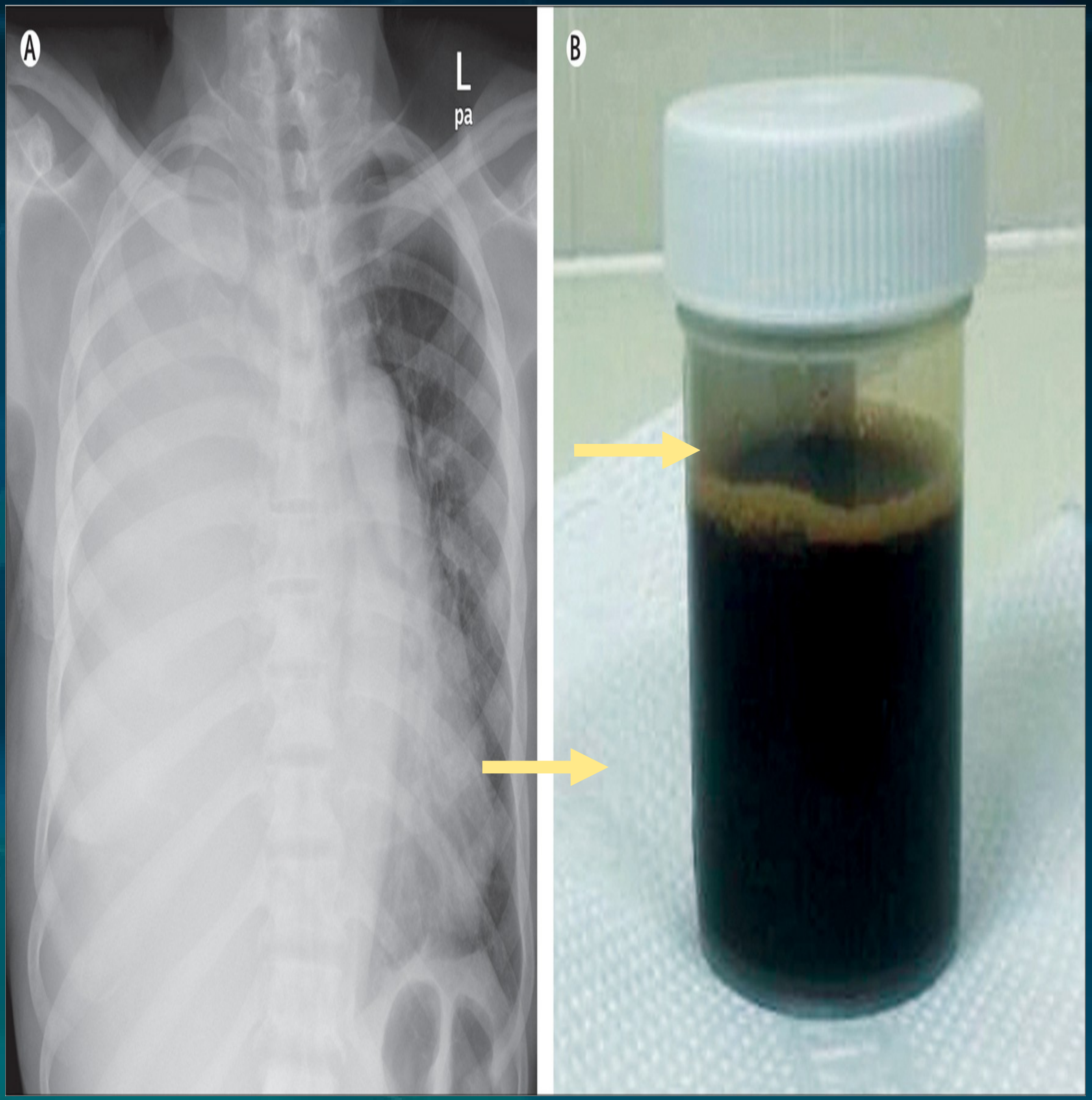


Chest Radiography: Atelectasis vs Effusion



Total lung atelectasis

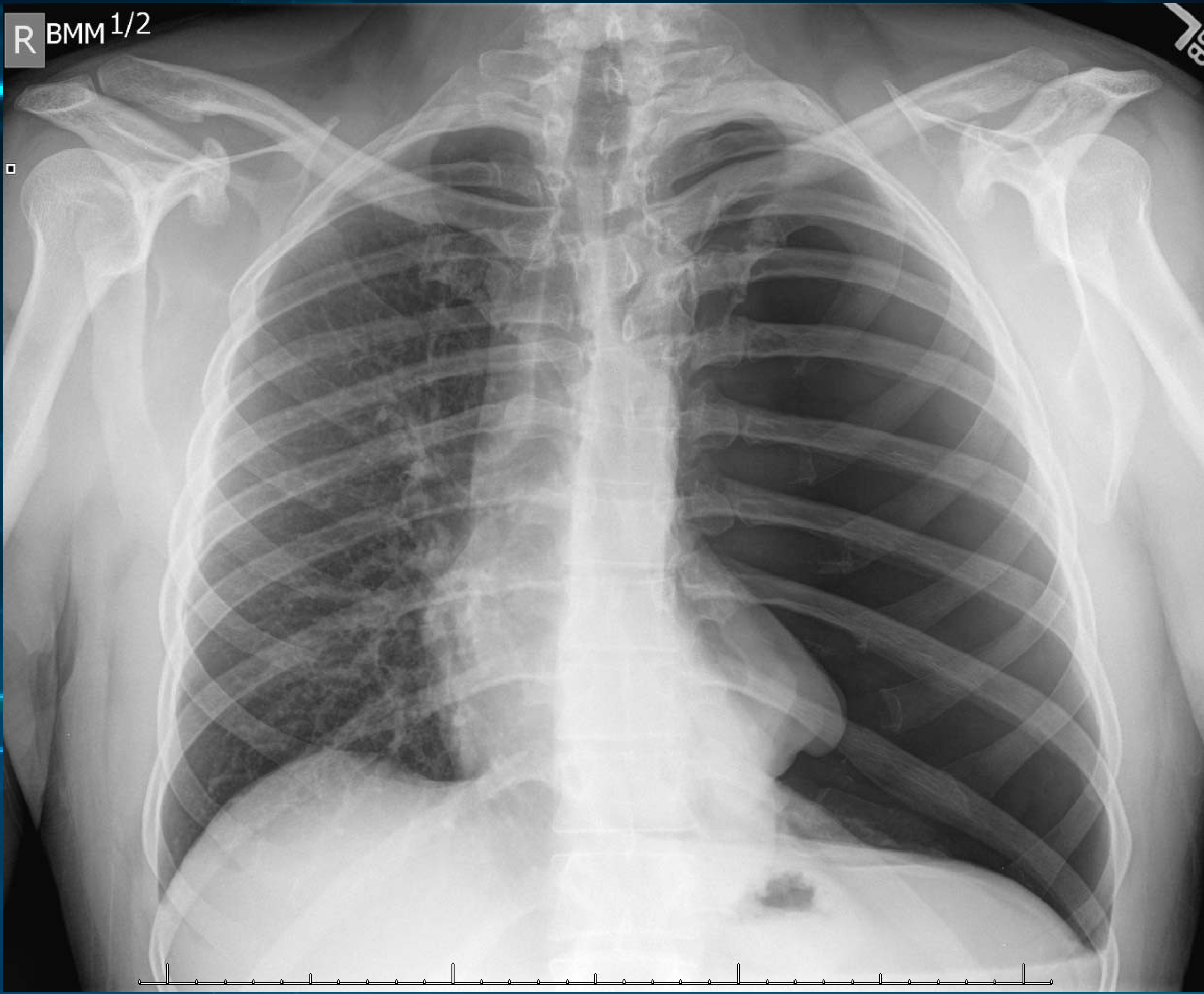
With mediastinal shift towards opacity



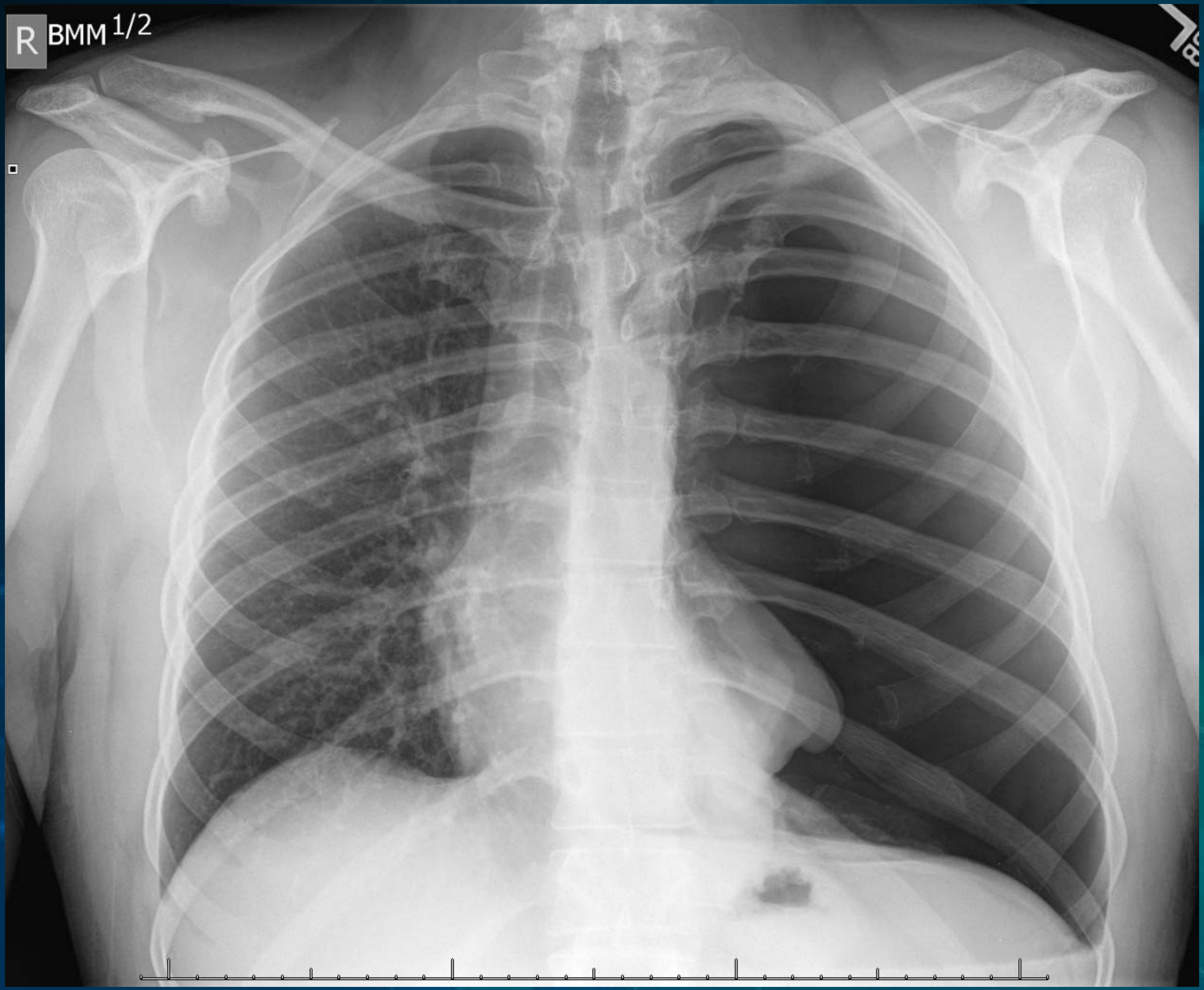
Large pleural effusion

With mediastinal shift away from opacity

Chest Radiography :



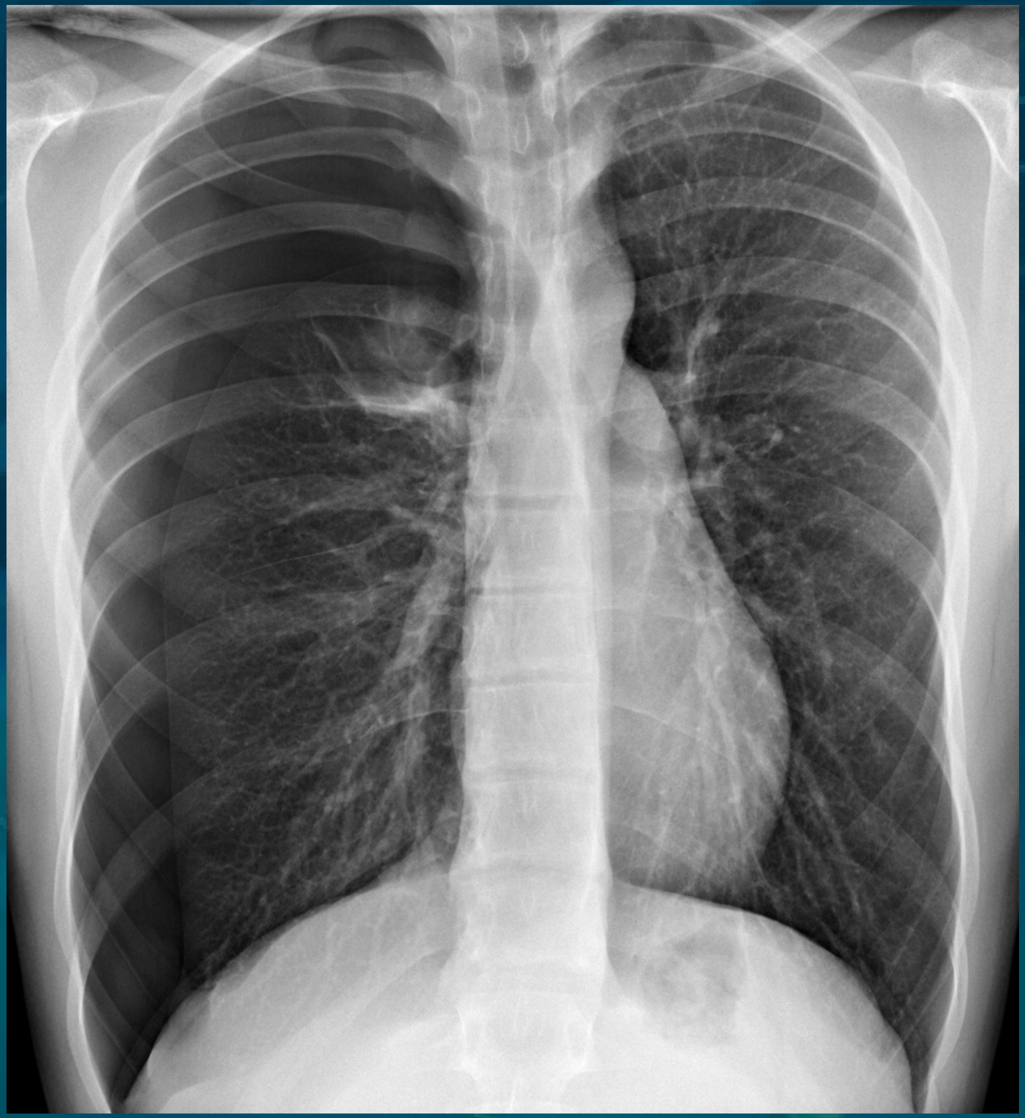
Chest Radiography: Pneumothorax



Pneumothorax

Normal lung demarcated from air-filled pleural space with absent markings

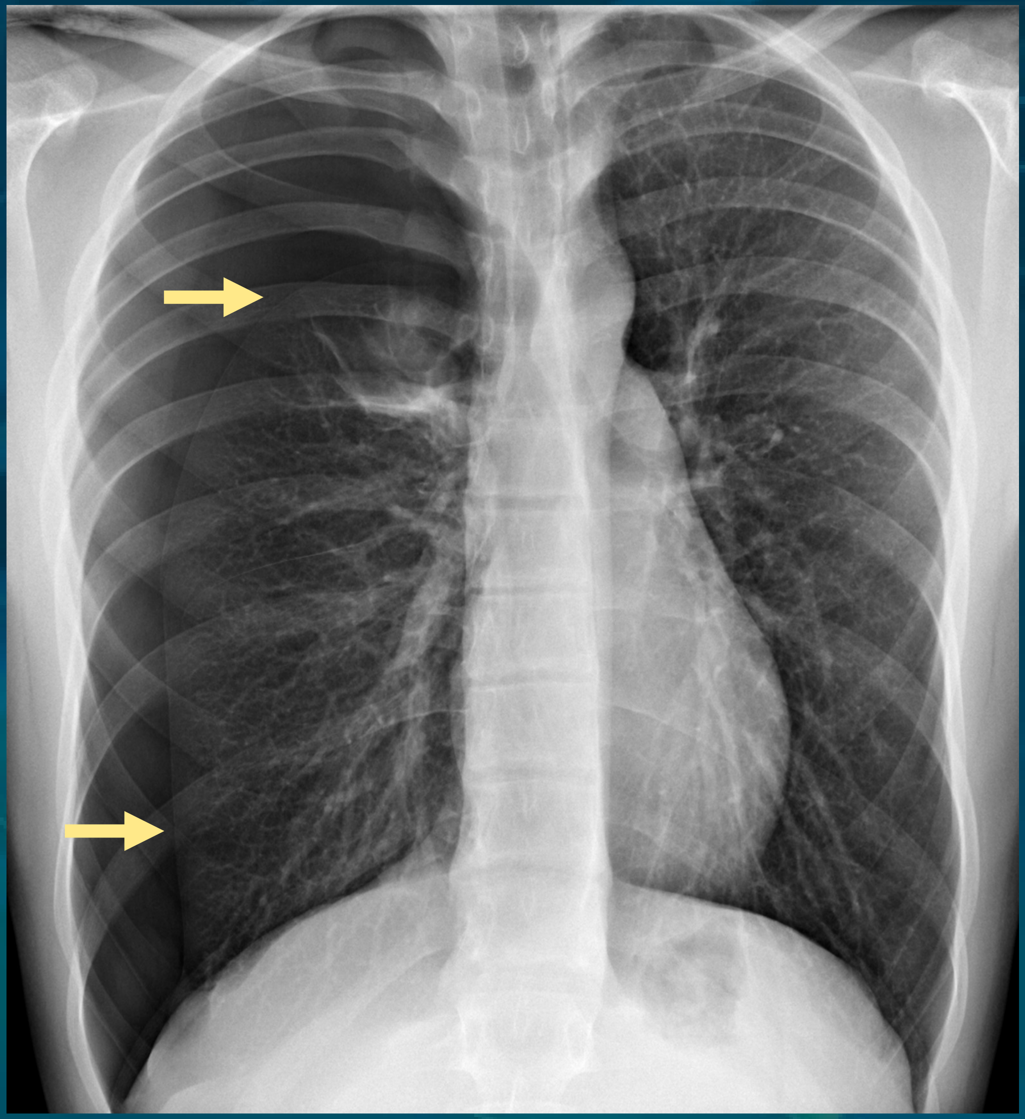
Chest Radiography: Pneumothorax



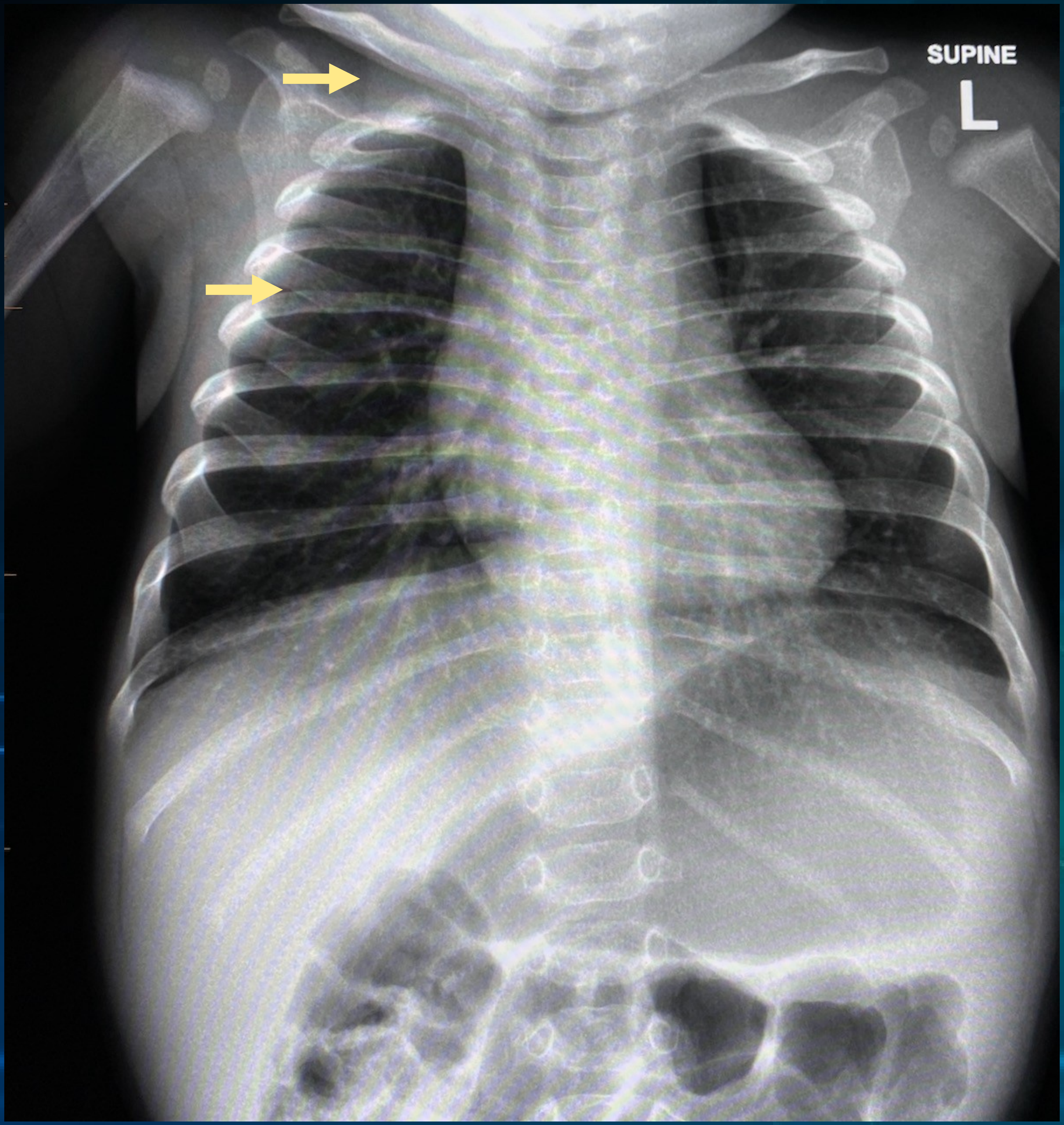
Chest Radiography: Pneumothorax

Pneumothorax

A pleural line demarcates the air-filled pleural space (with absent markings) from the collapsed lung



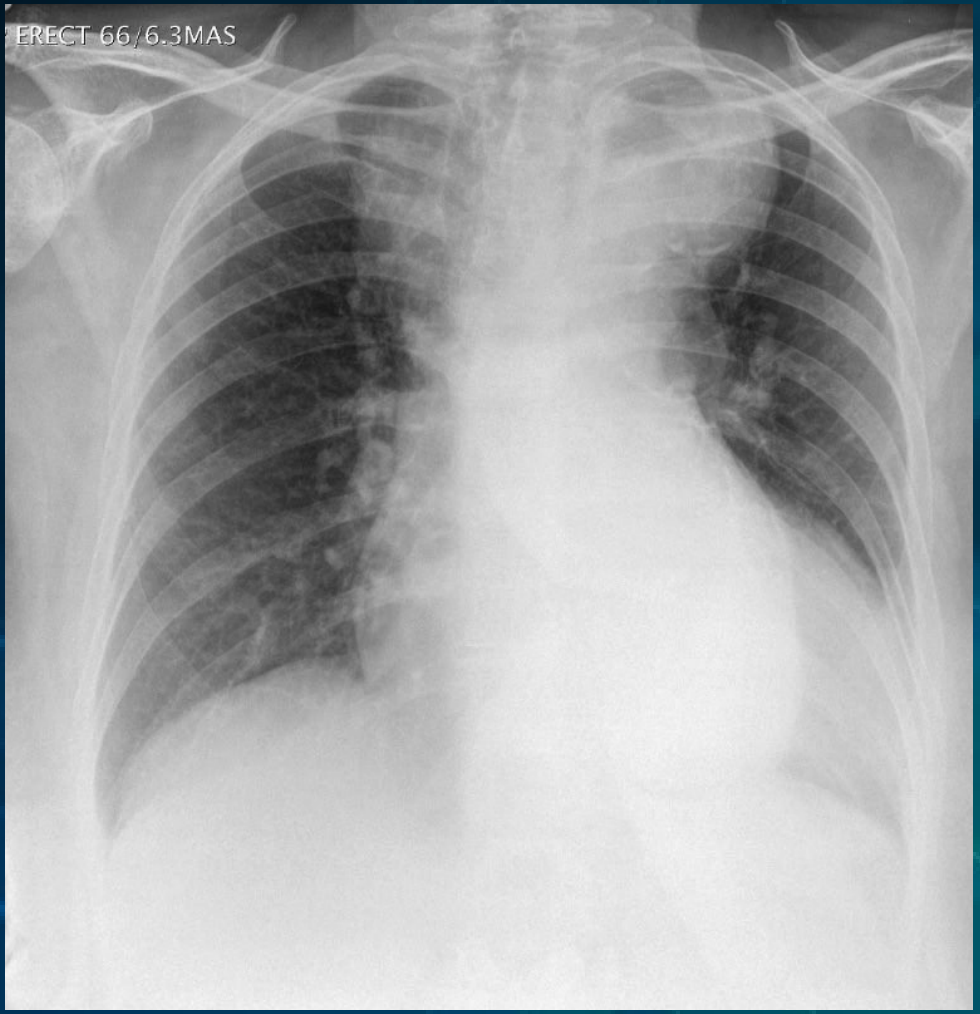
Chest Radiography: Pneumothorax



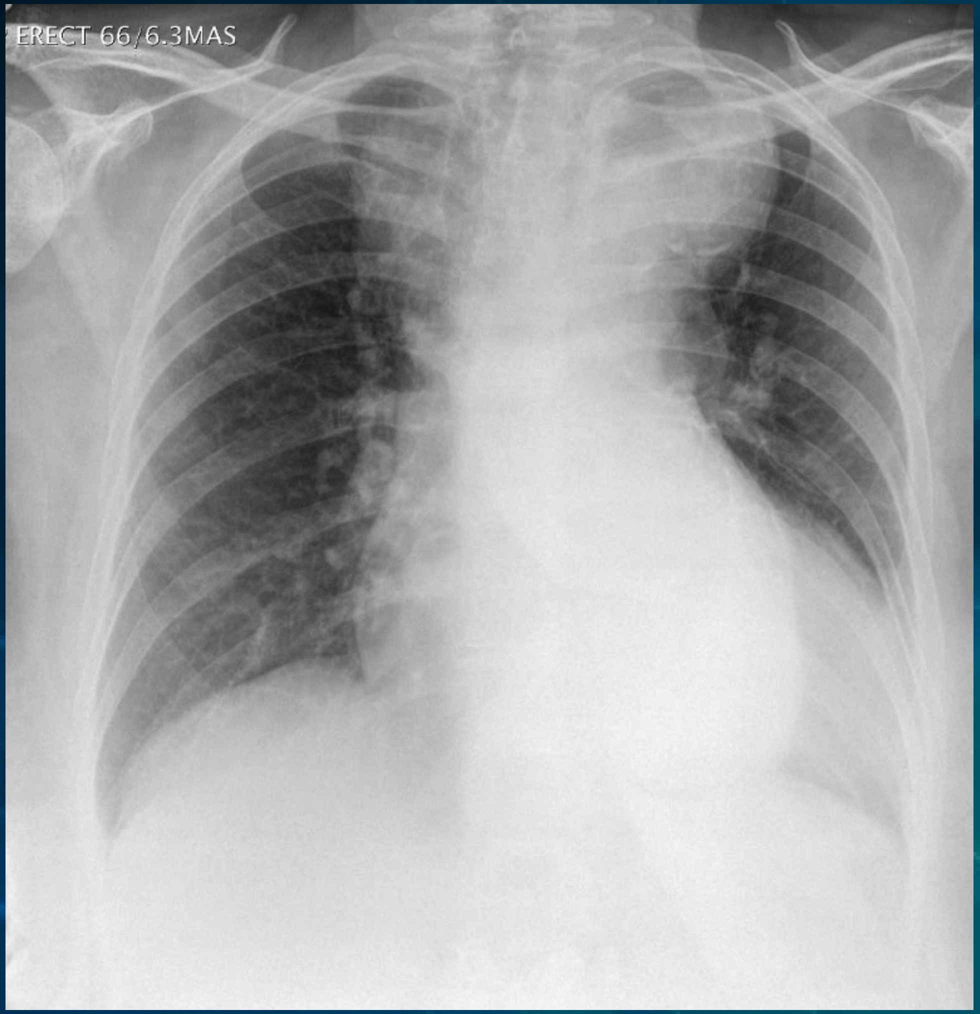
PITFALL

A skin fold shadow can simulate a pneumothorax

Chest Radiography:

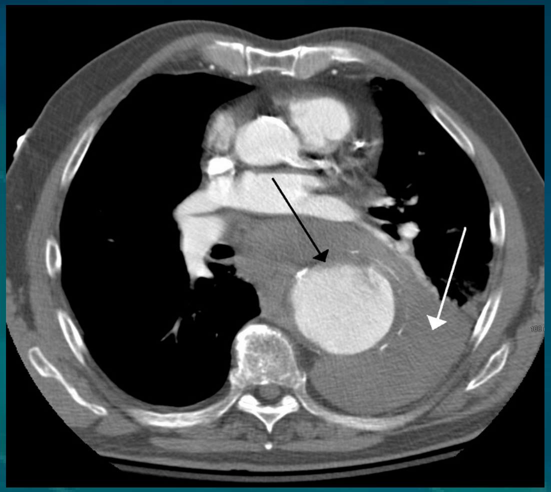

ERECT 66/6.3MAS

Chest Radiography: Widened mediastinum

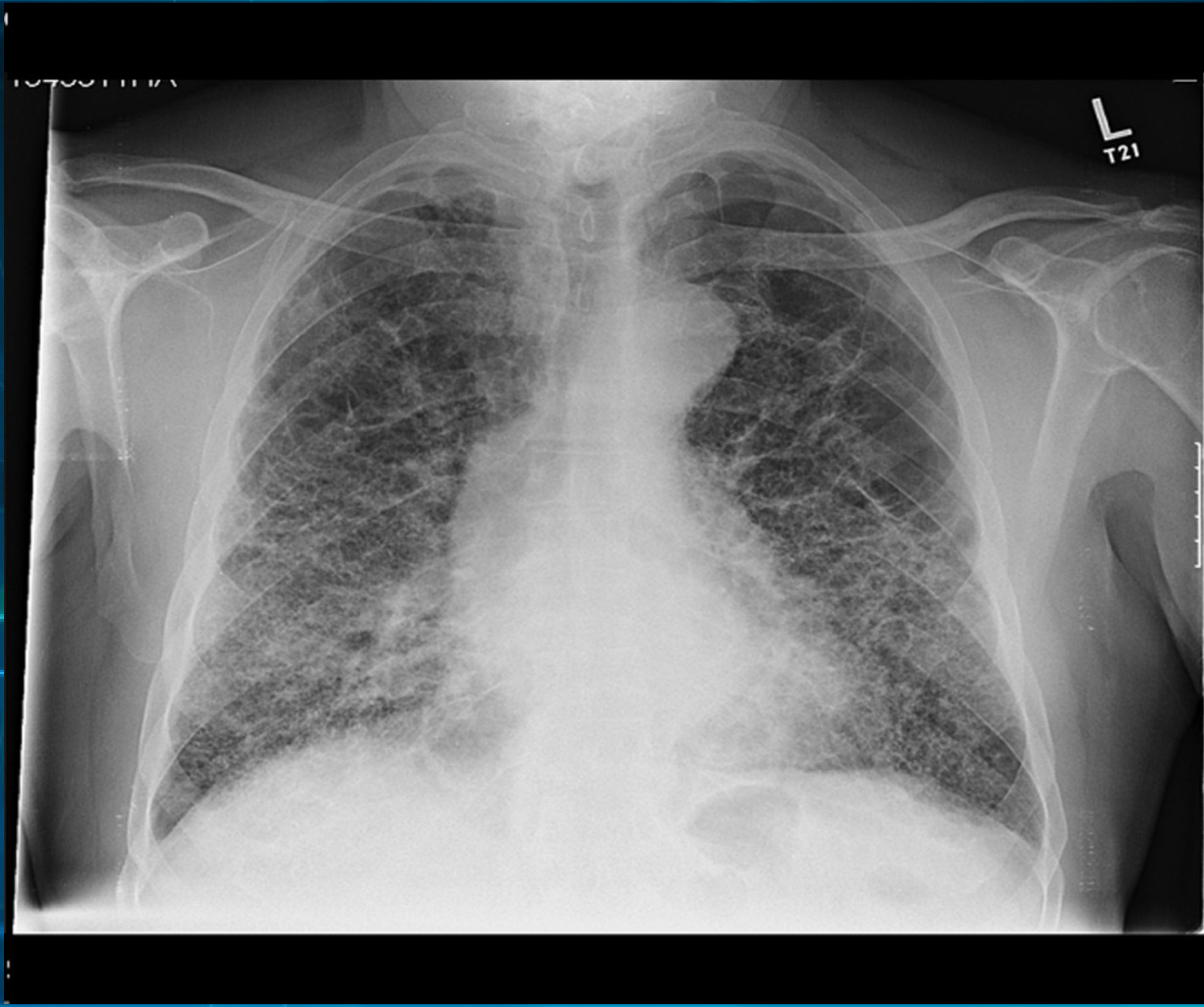

ERECT 66/6.3MAS

Widened mediastinum

Mediastinal hematoma
Lymphadenopathy
Mass



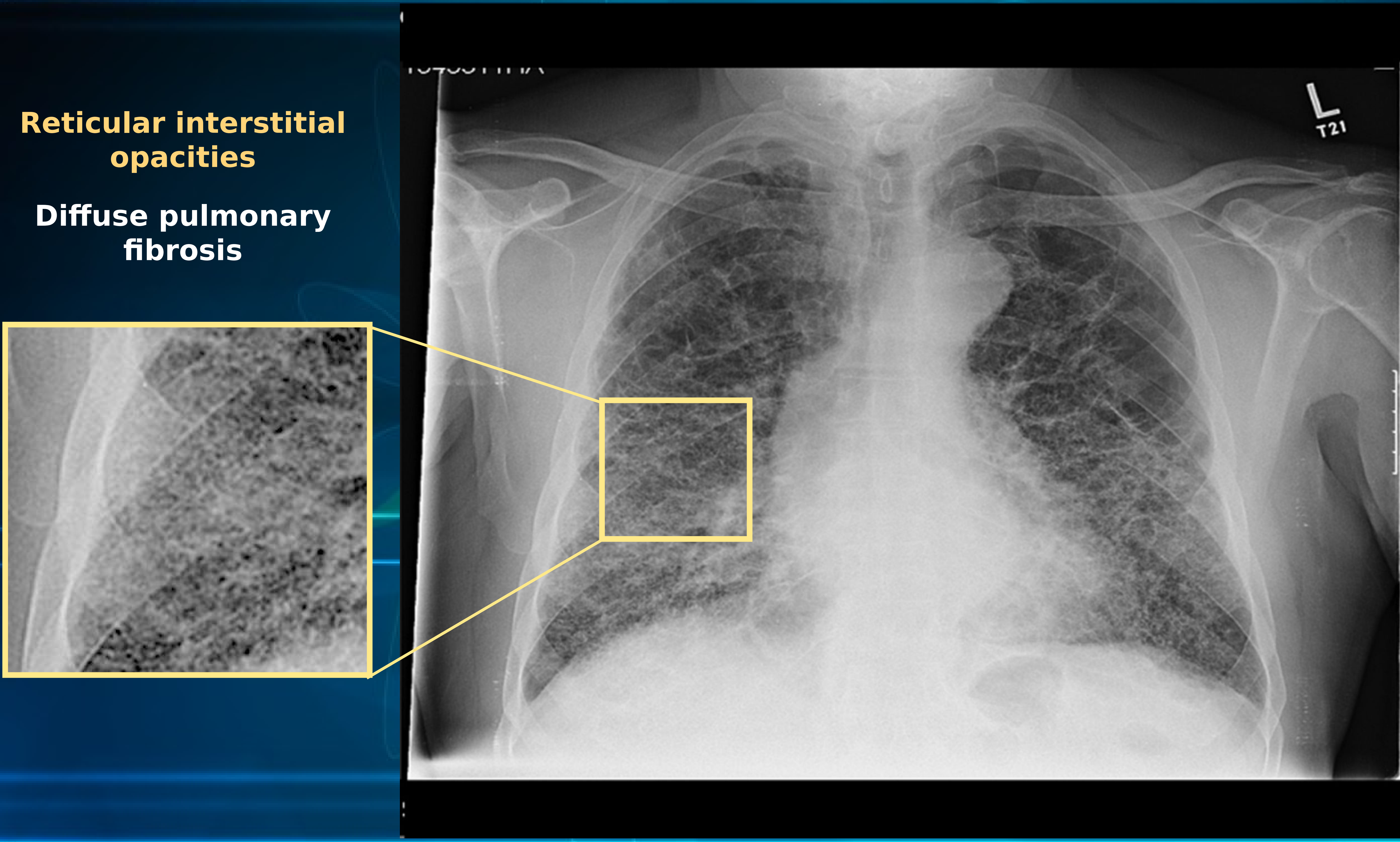
Chest Radiography:



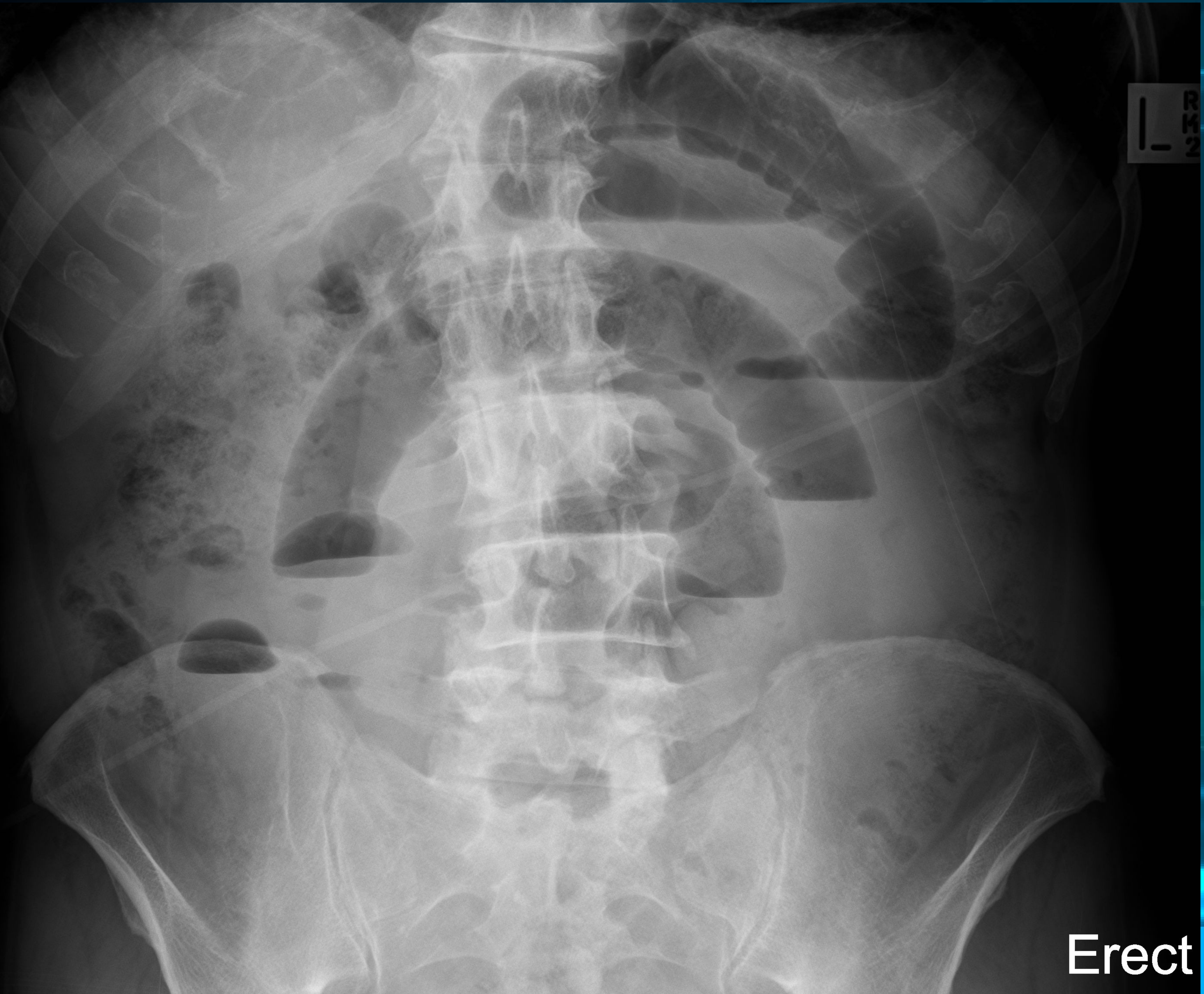
Chest Radiography:

Reticular interstitial opacities

Diffuse pulmonary fibrosis

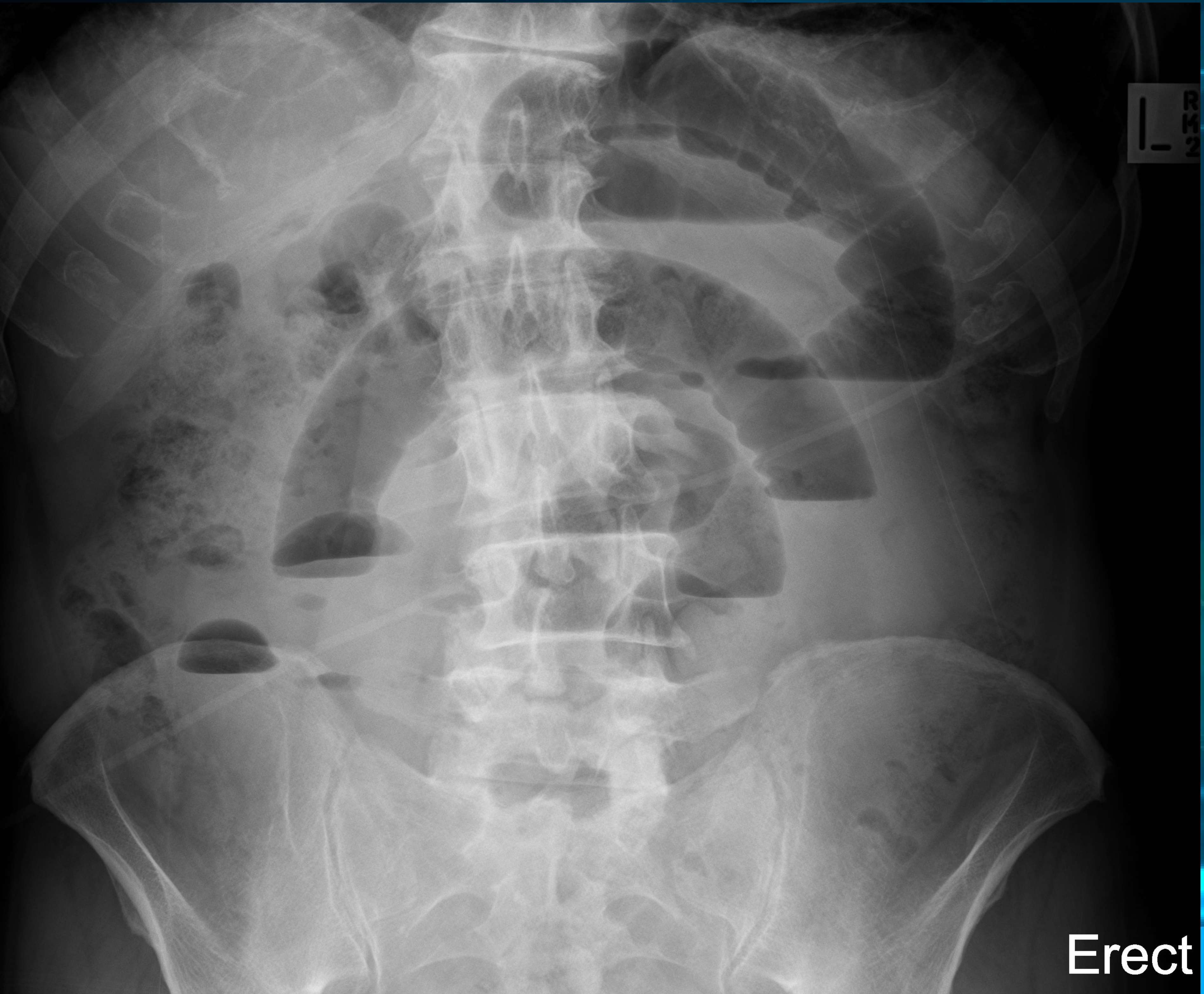


Abdominal Radiography: Bowel gas patterns



Erect

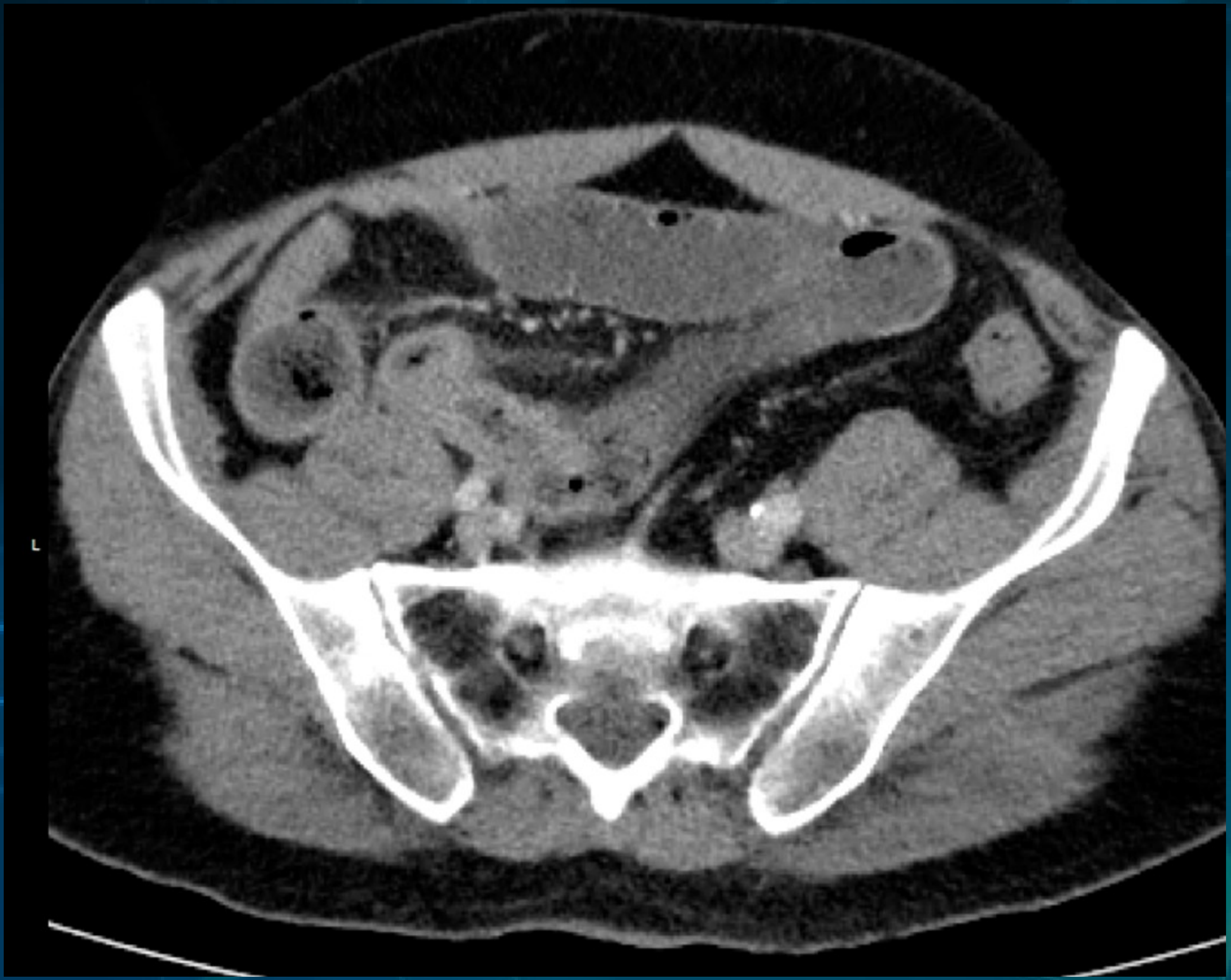
Abdominal Radiography: Bowel gas patterns



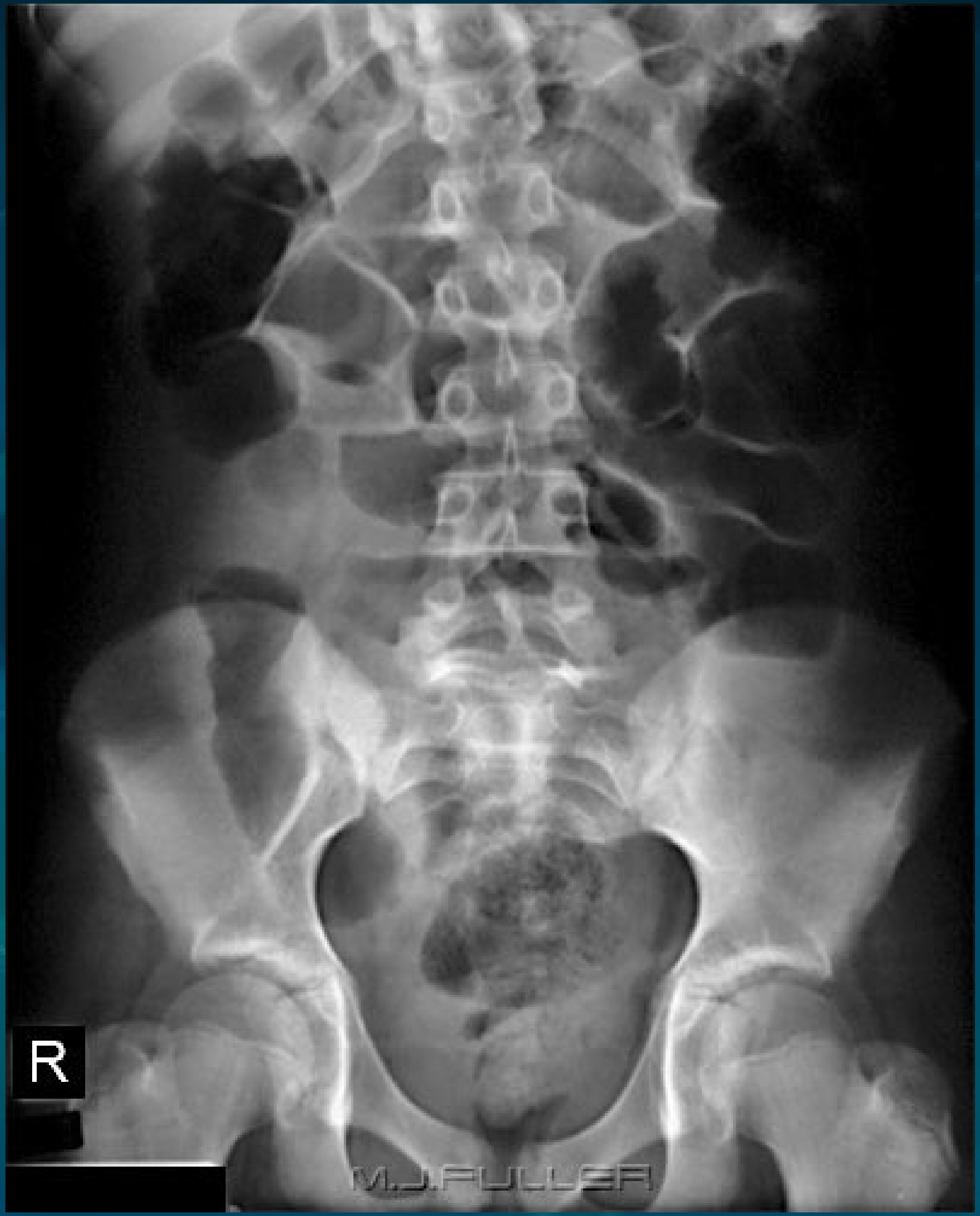
Small bowel obstruction

Distended small bowel
Paucity of colonic gas
“Stacked” loops
Air-fluid levels

Small Bowel Obstruction



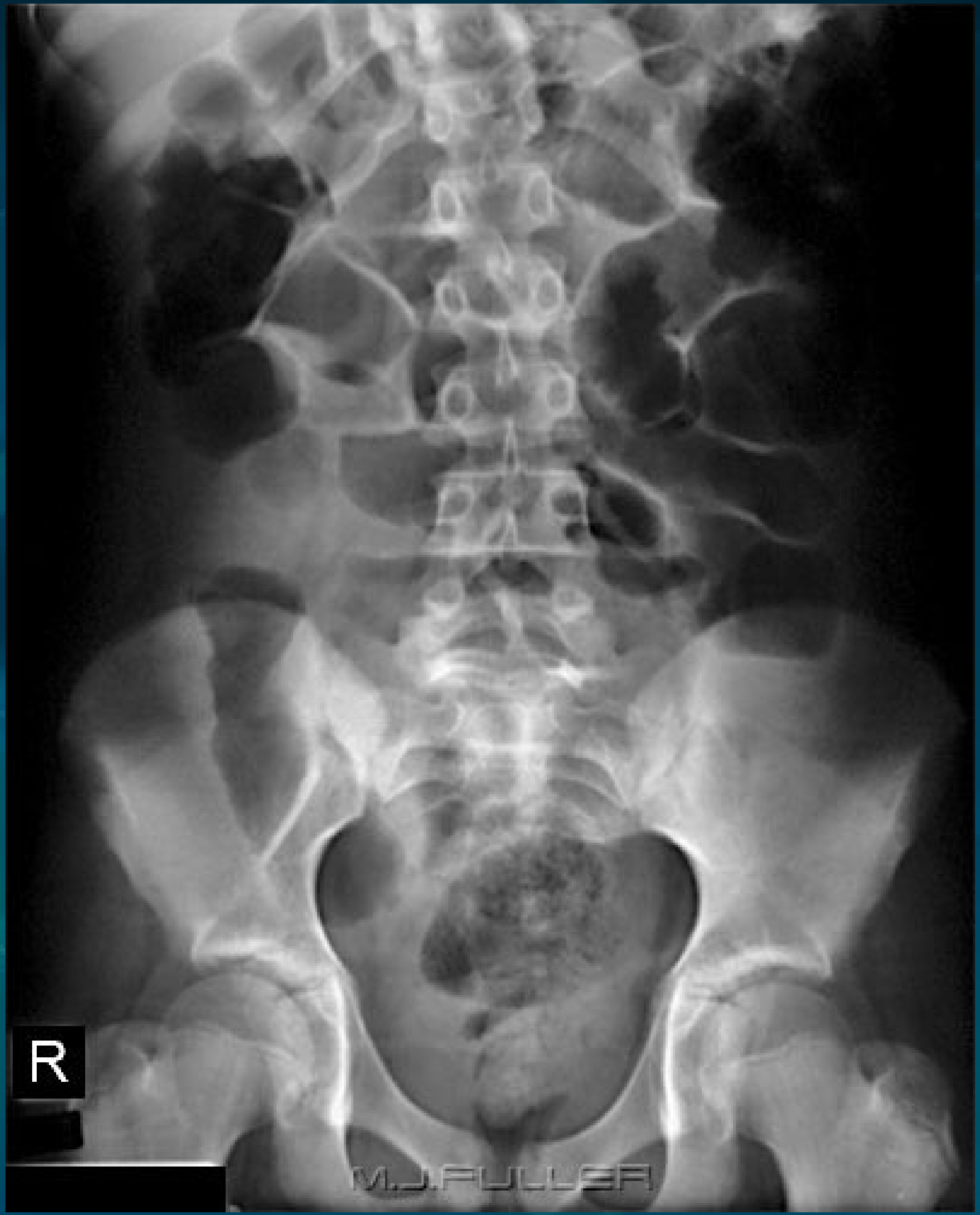
Abdominal Radiography: Bowel gas patterns



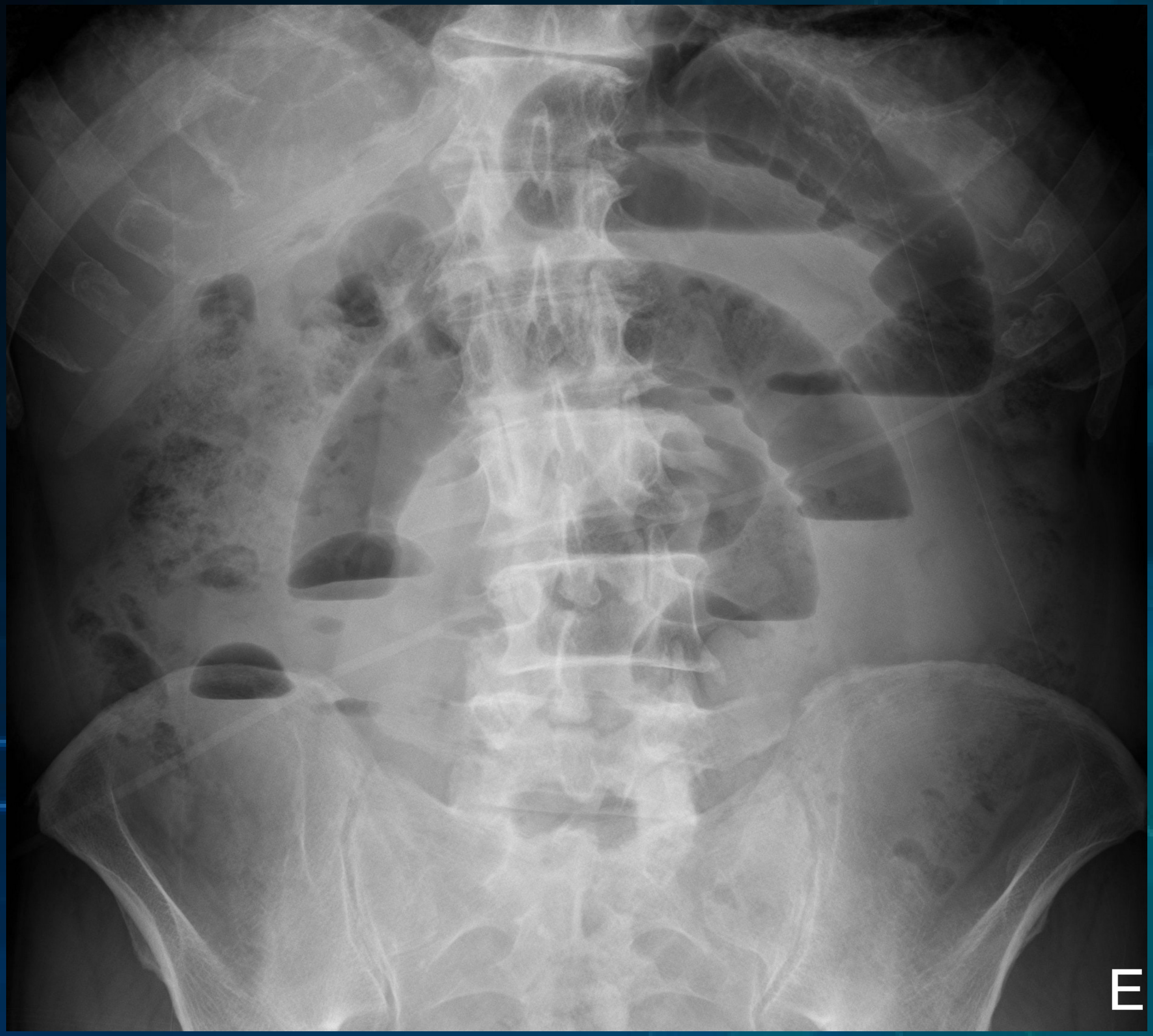
Abdominal Radiography: Bowel gas patterns

Ileus

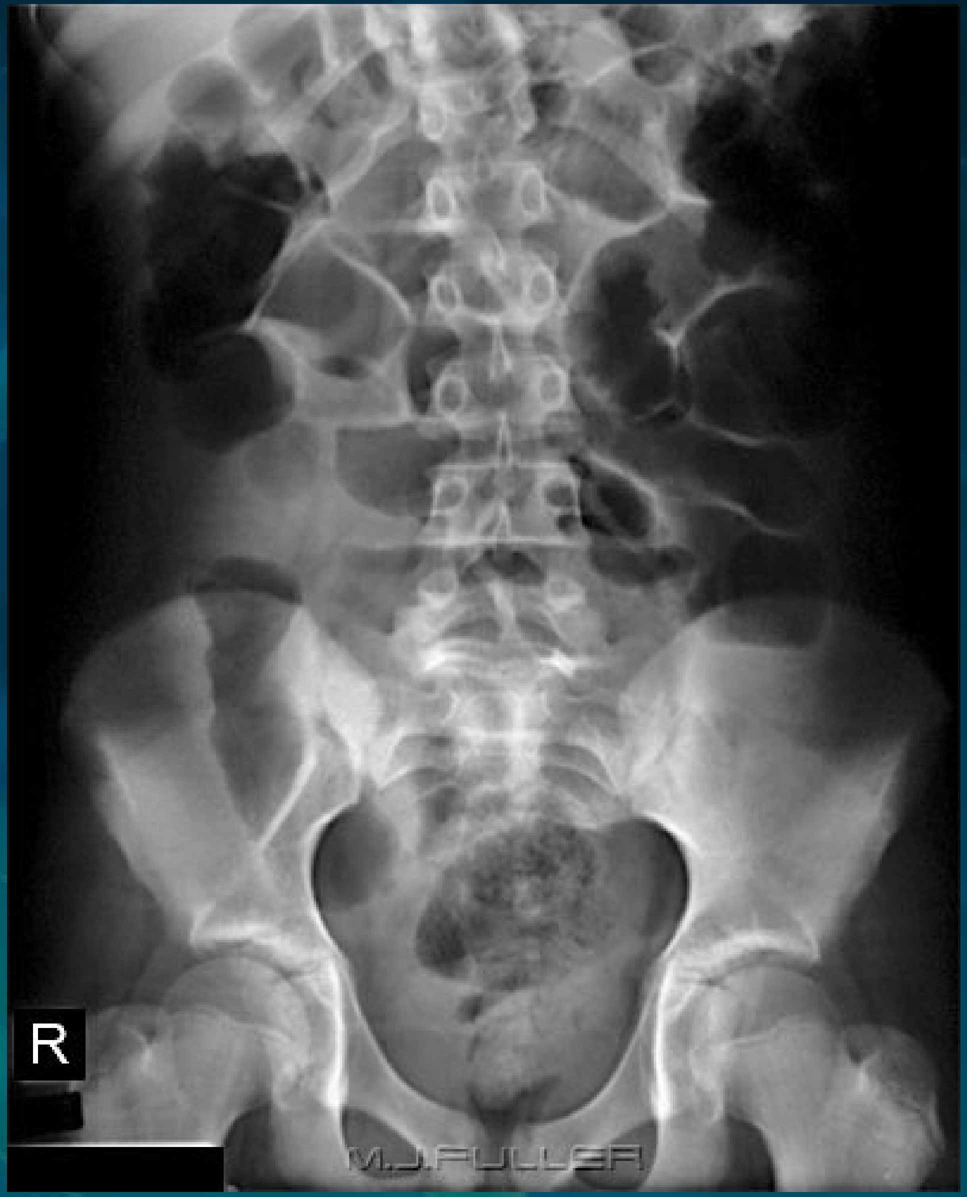
“Paralytic” or “adynamic “ ileus
Distended small and large bowel
Air in the rectal vault



Abdominal Radiography: Bowel gas patterns

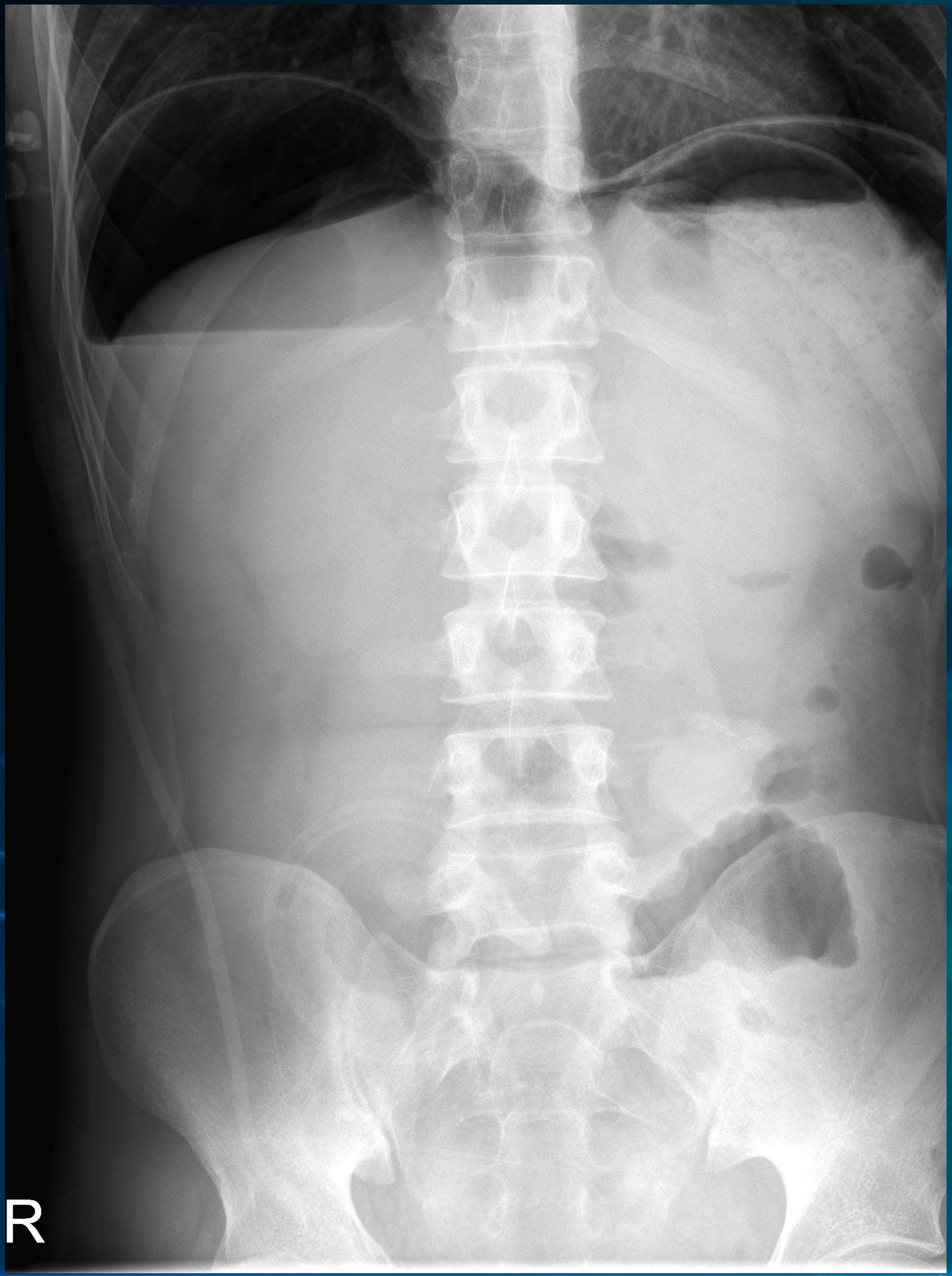


SBO

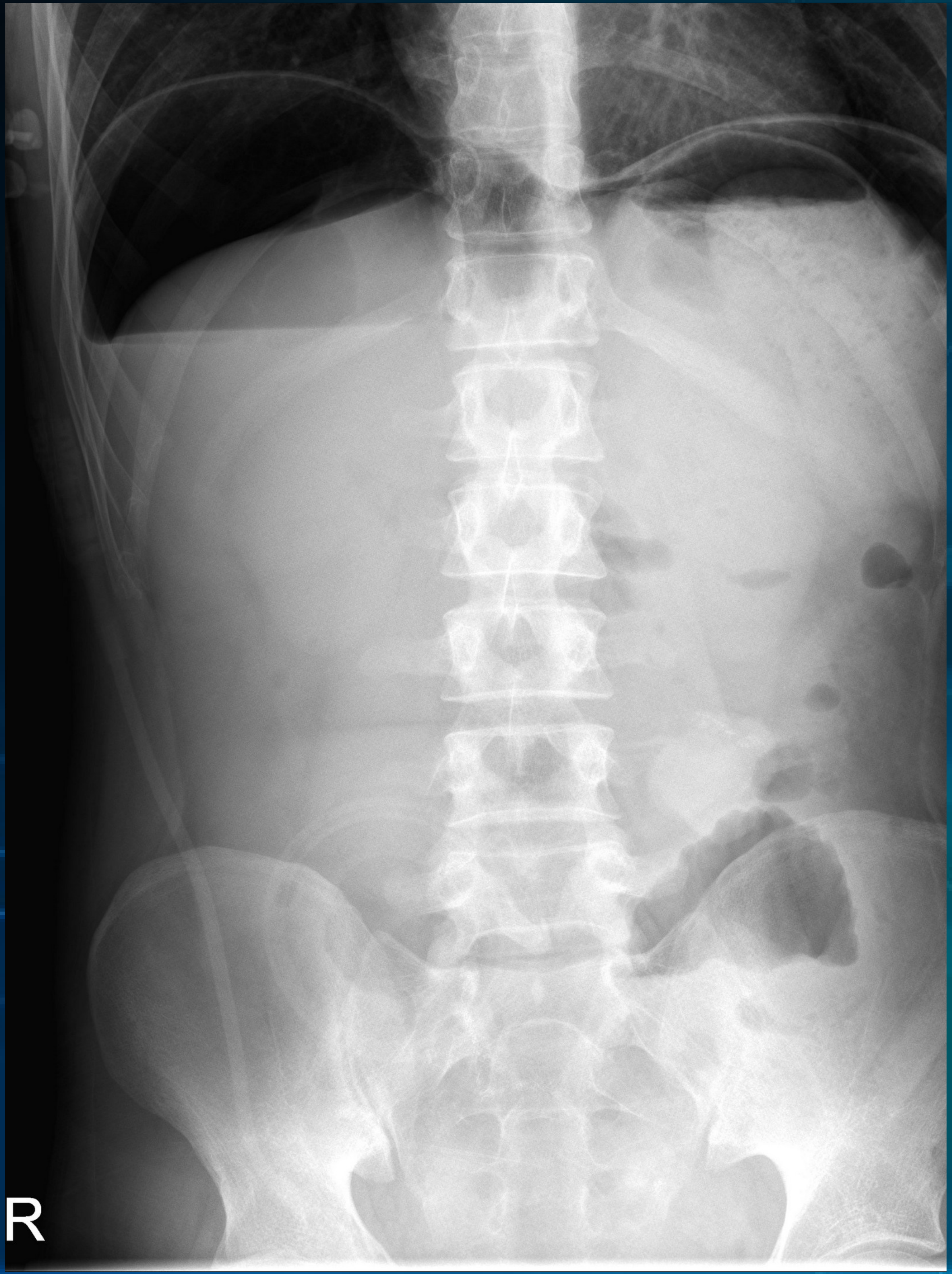


Ileus

Abdominal Radiography:



Abdominal Radiography: Free air



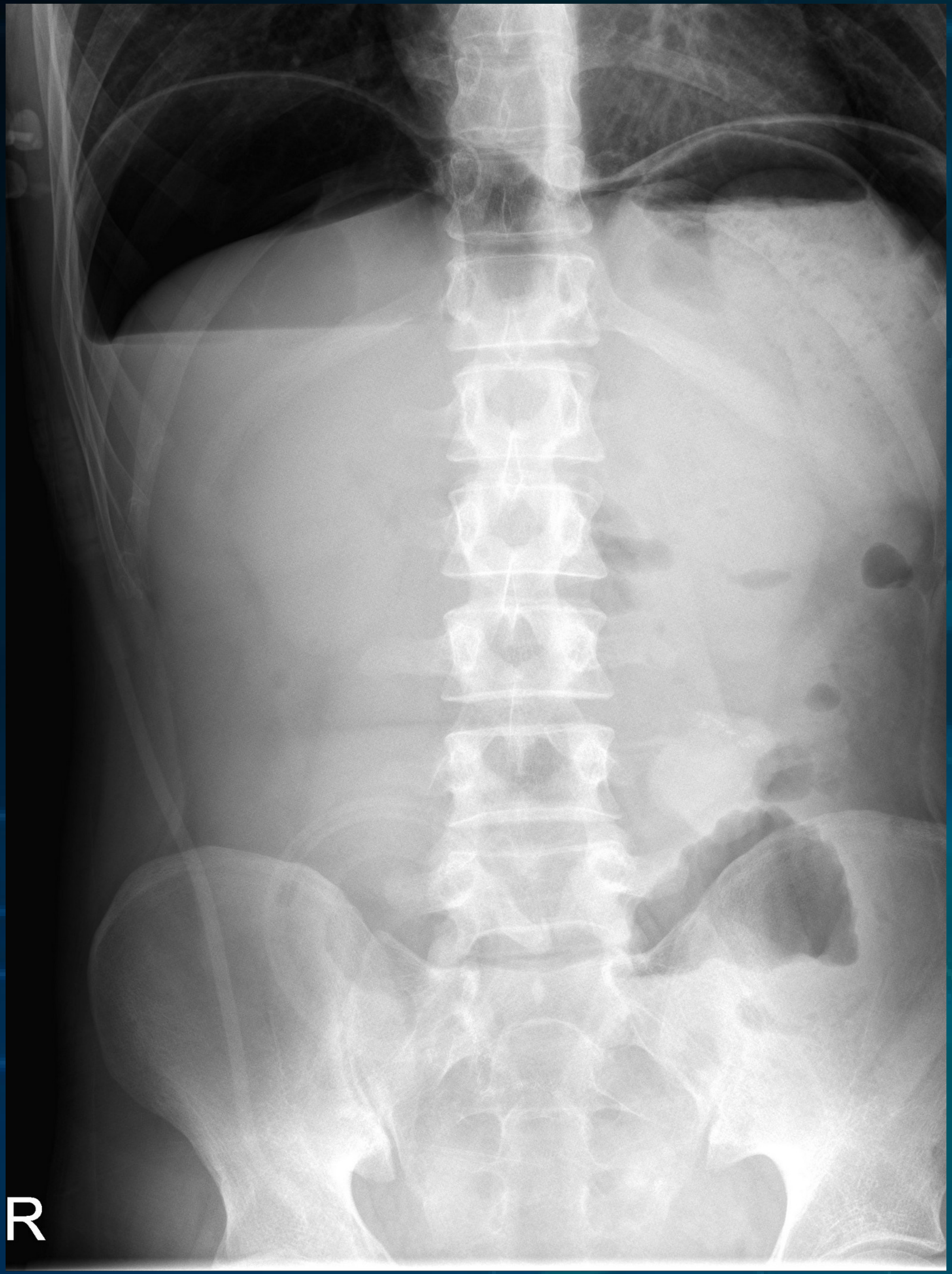
Pneumoperitoneum

“Free air” in the non-dependent abdomen

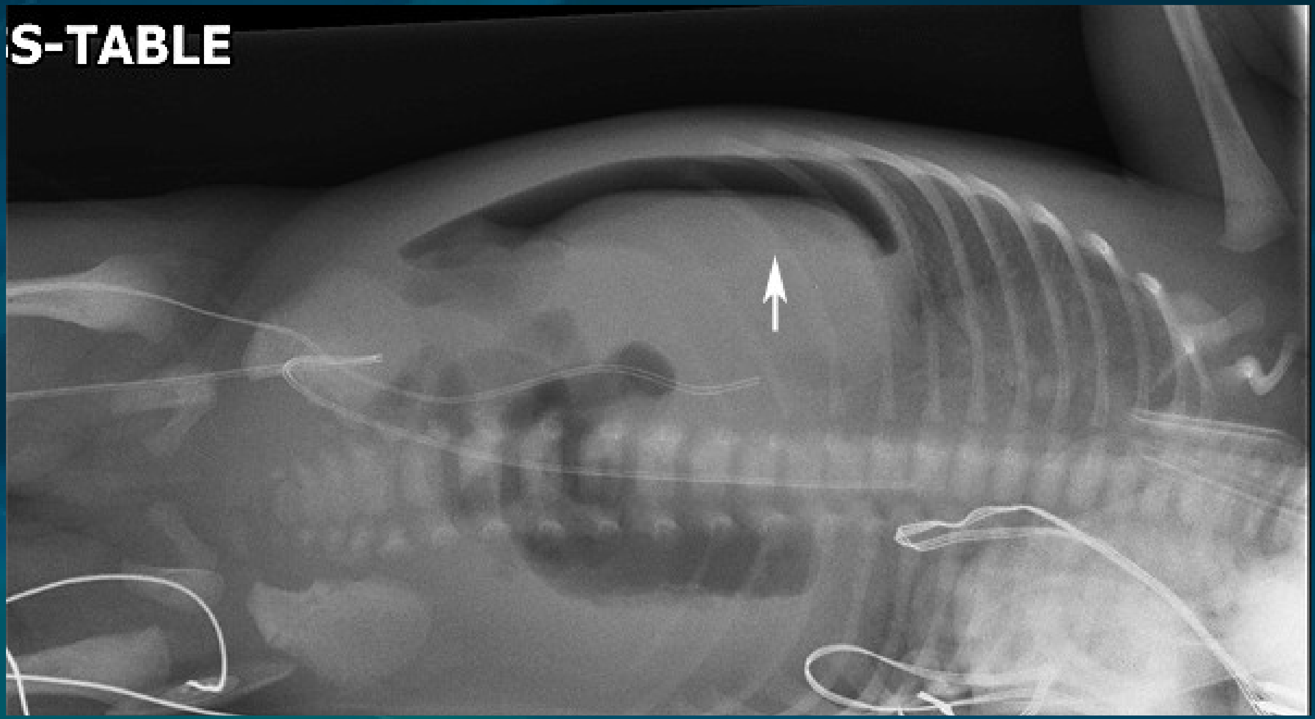
Requires upright or decubitus positioning for most sensitive detection

Implies hollow visceral perforation, or post-operative status

Abdominal Radiography:



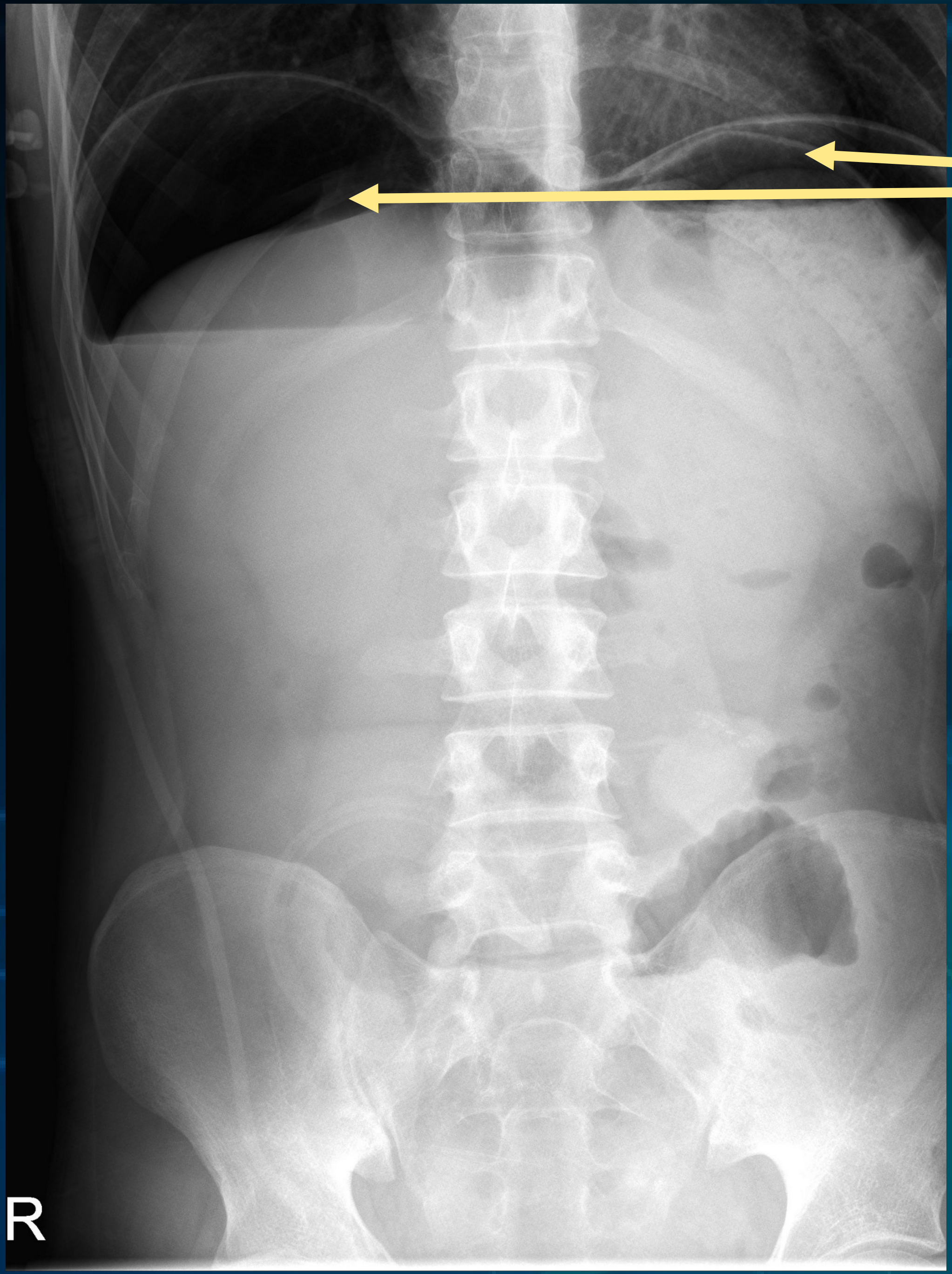
Upright



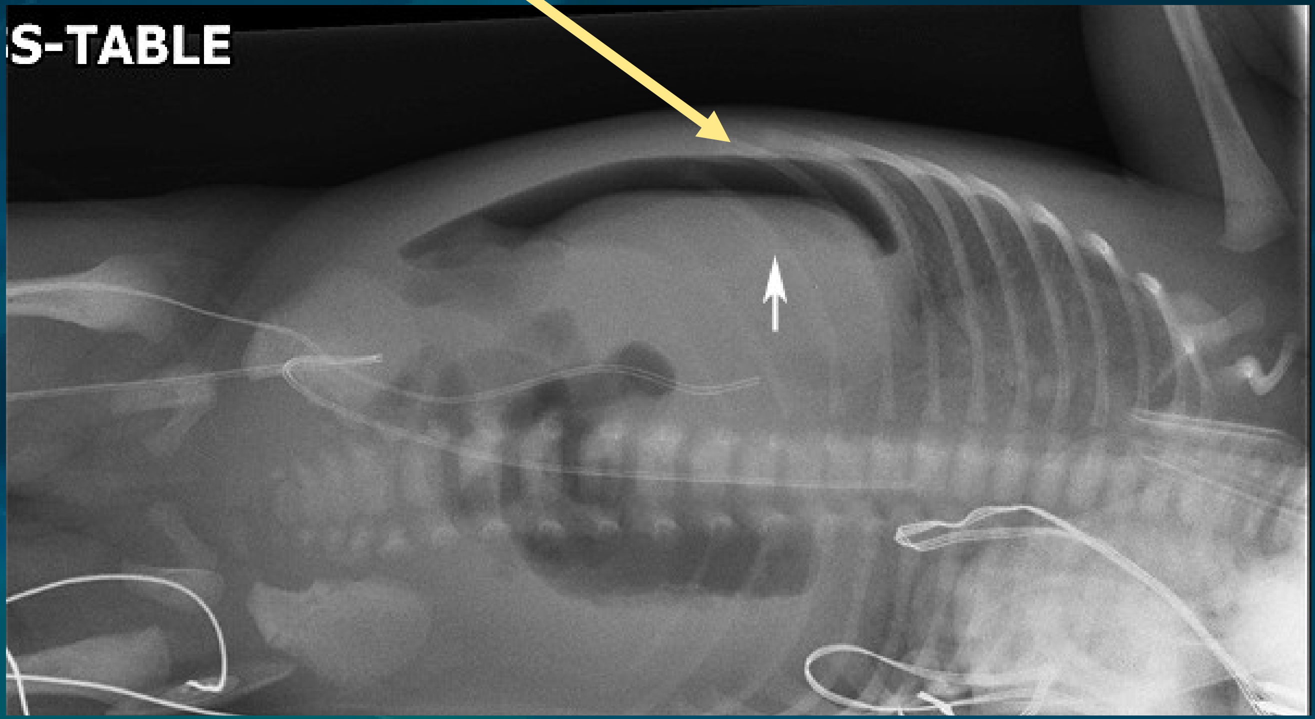
Lateral Decubitus

Abdominal Radiography:

Free air



Upright



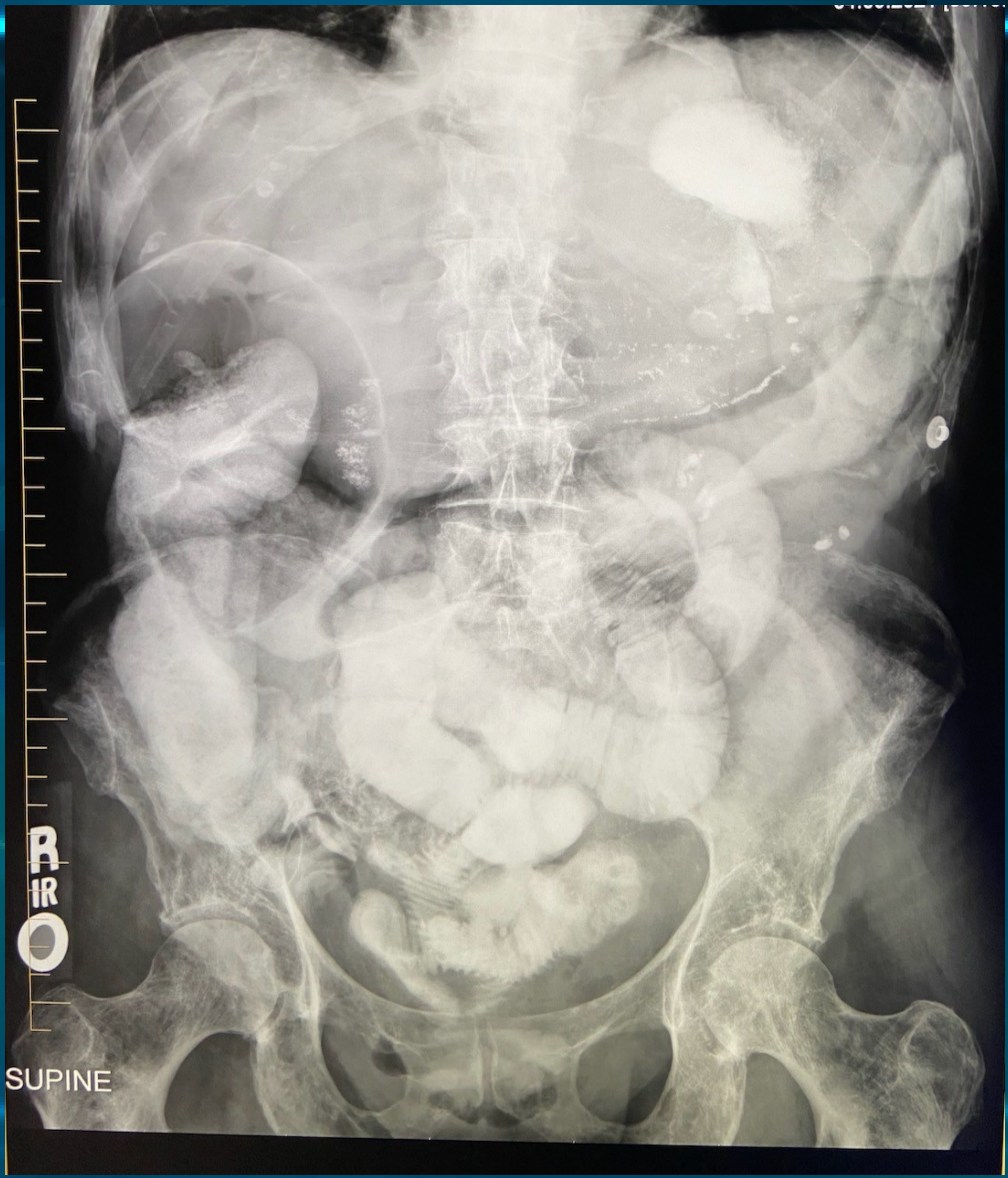
Lateral Decubitus

Abdominal Radiography: Free air

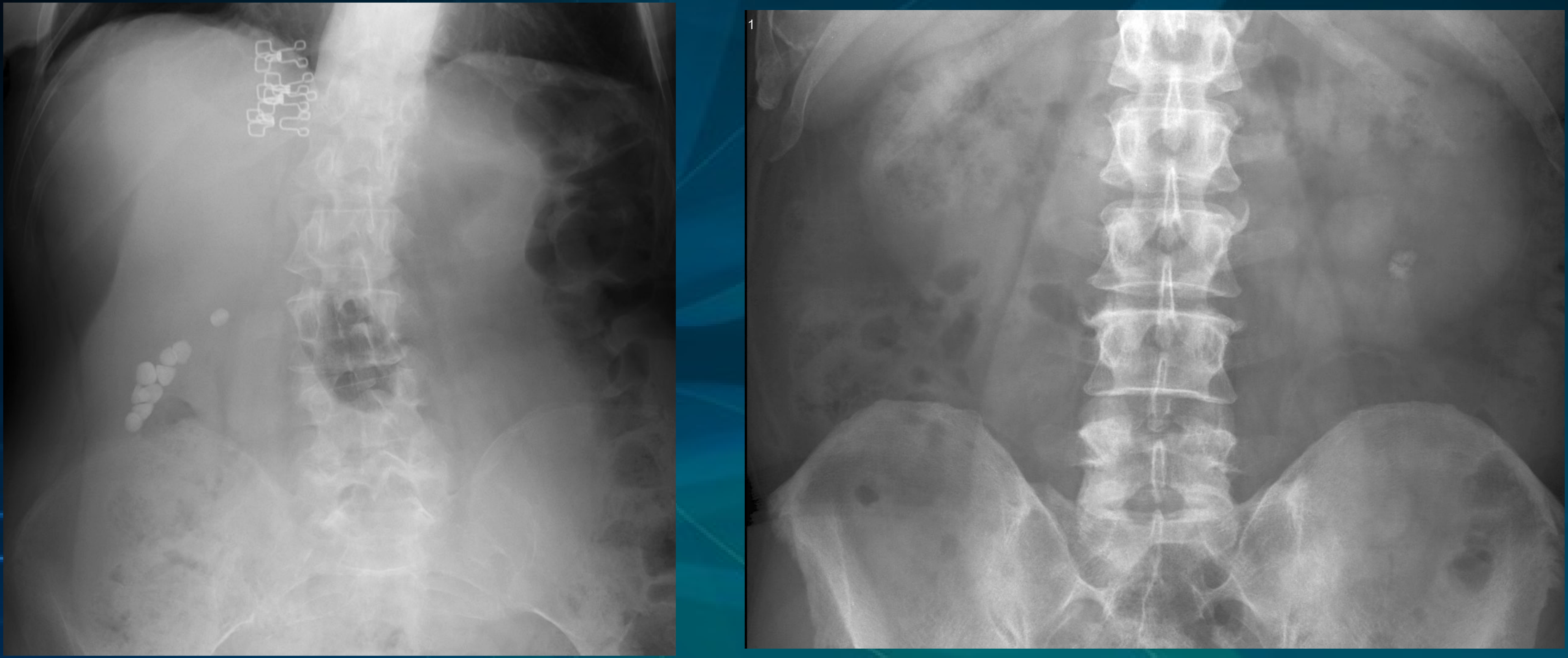
PITFALL

When supine, free air distributes in less obvious ways

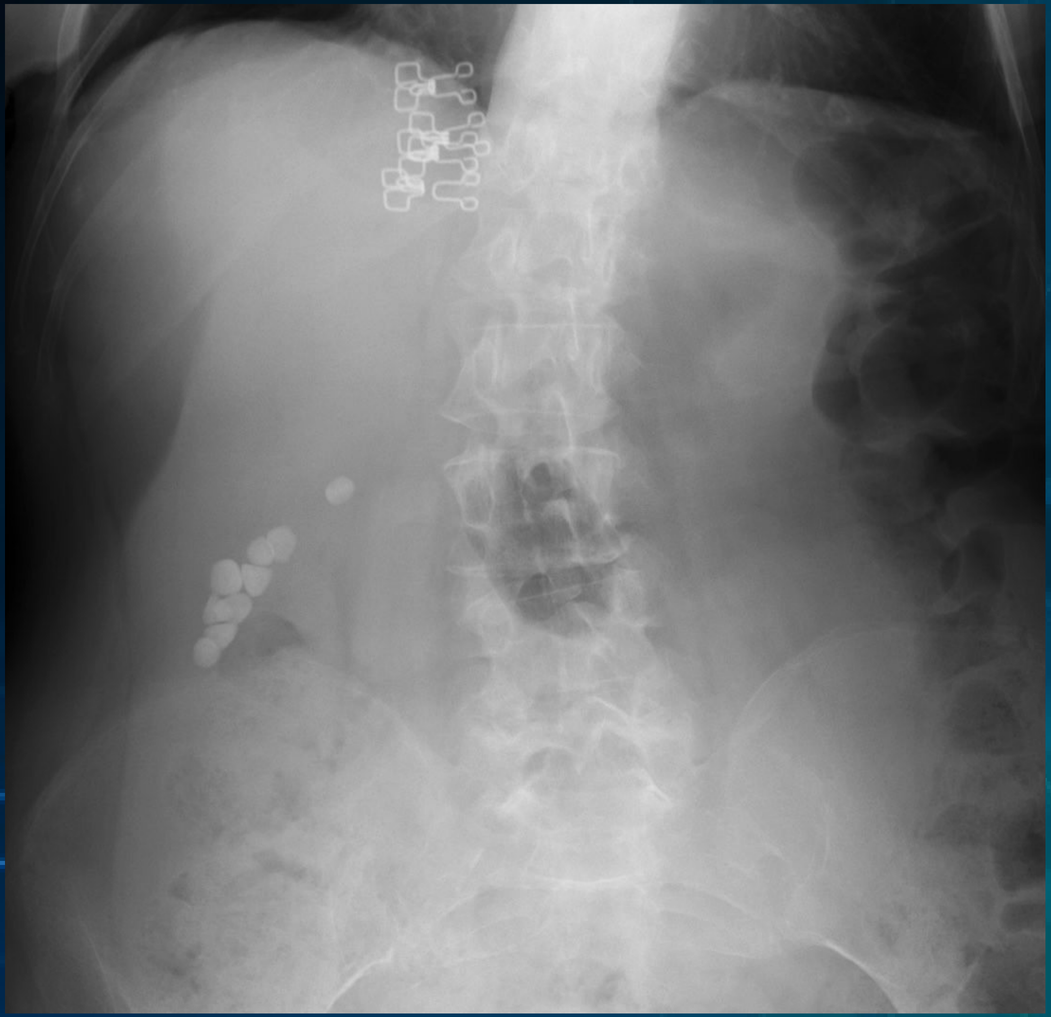
Rigler Sign: Air outlines both sides of the bowel wall



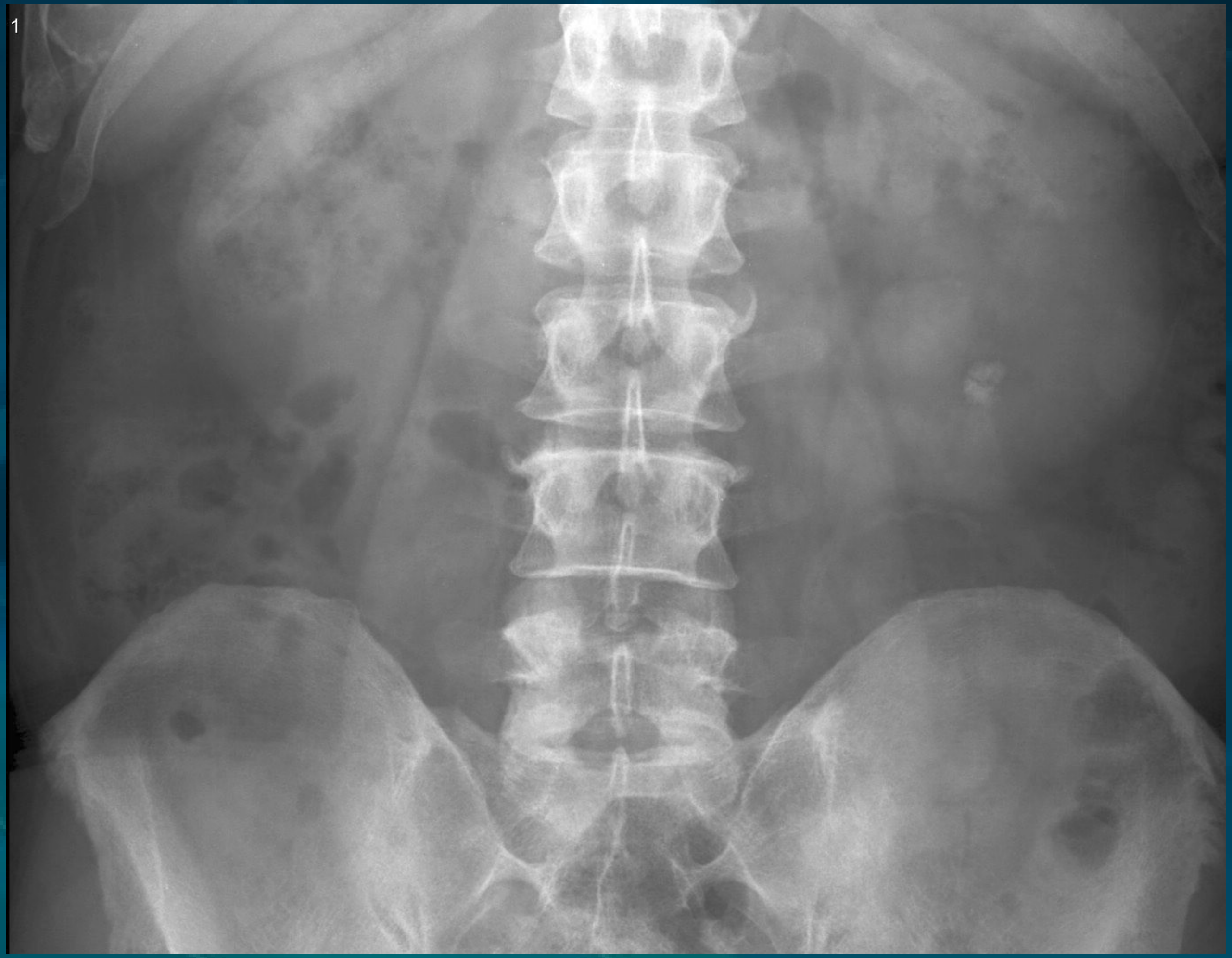
Abdominal Radiography: Calcifications



Abdominal Radiography: Calcifications



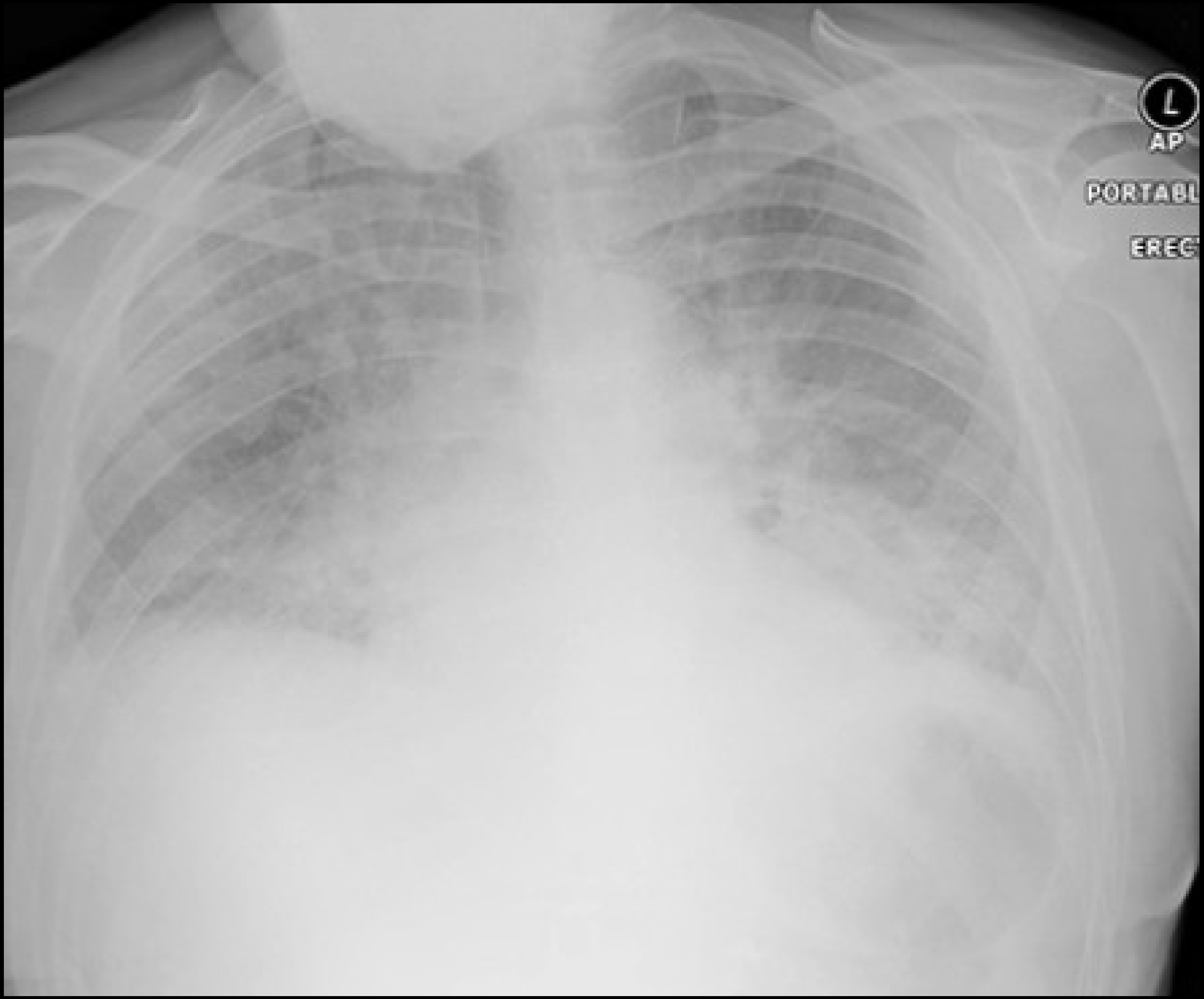
Gallstones



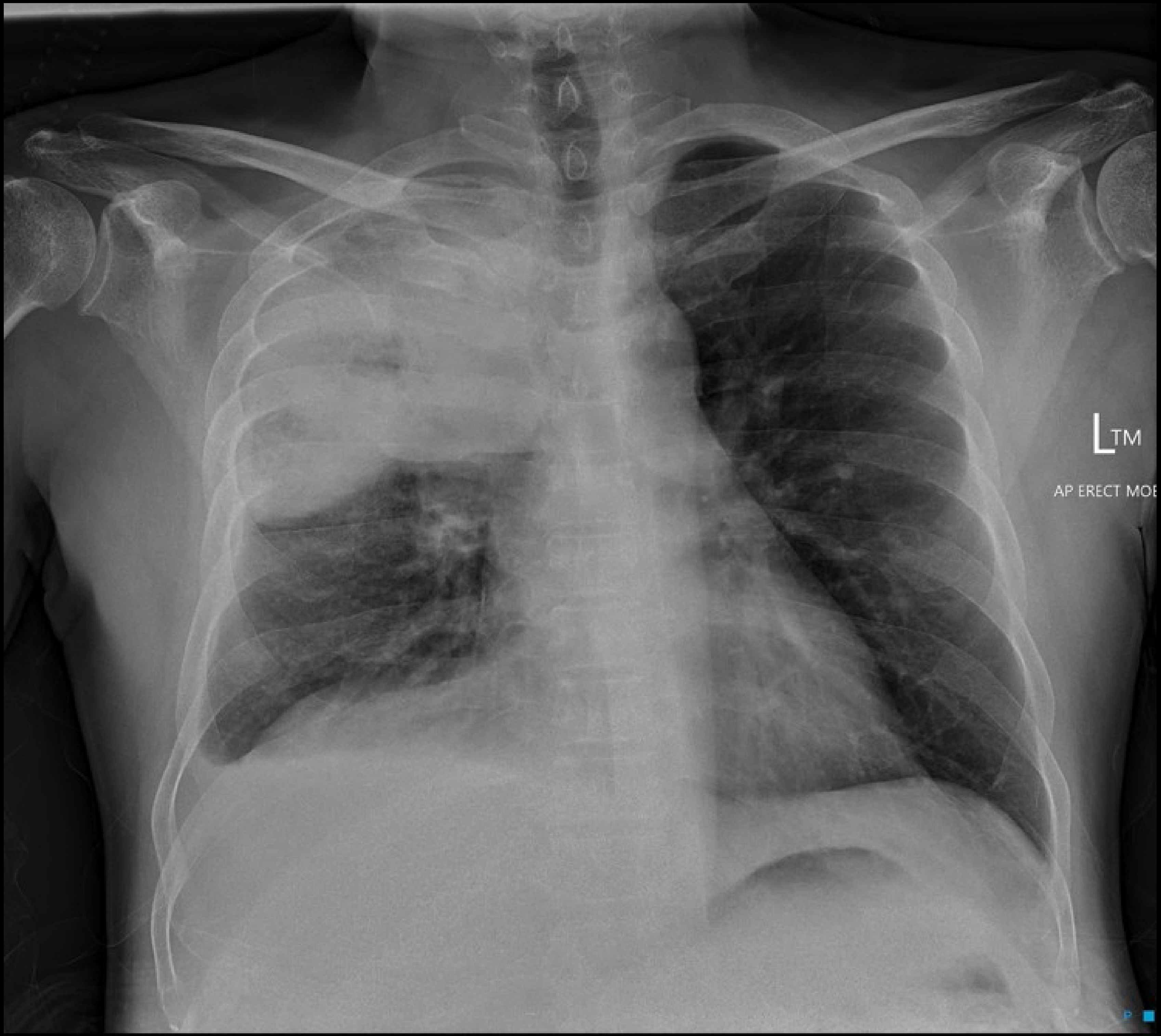
Renal stones

Lightning ROUND

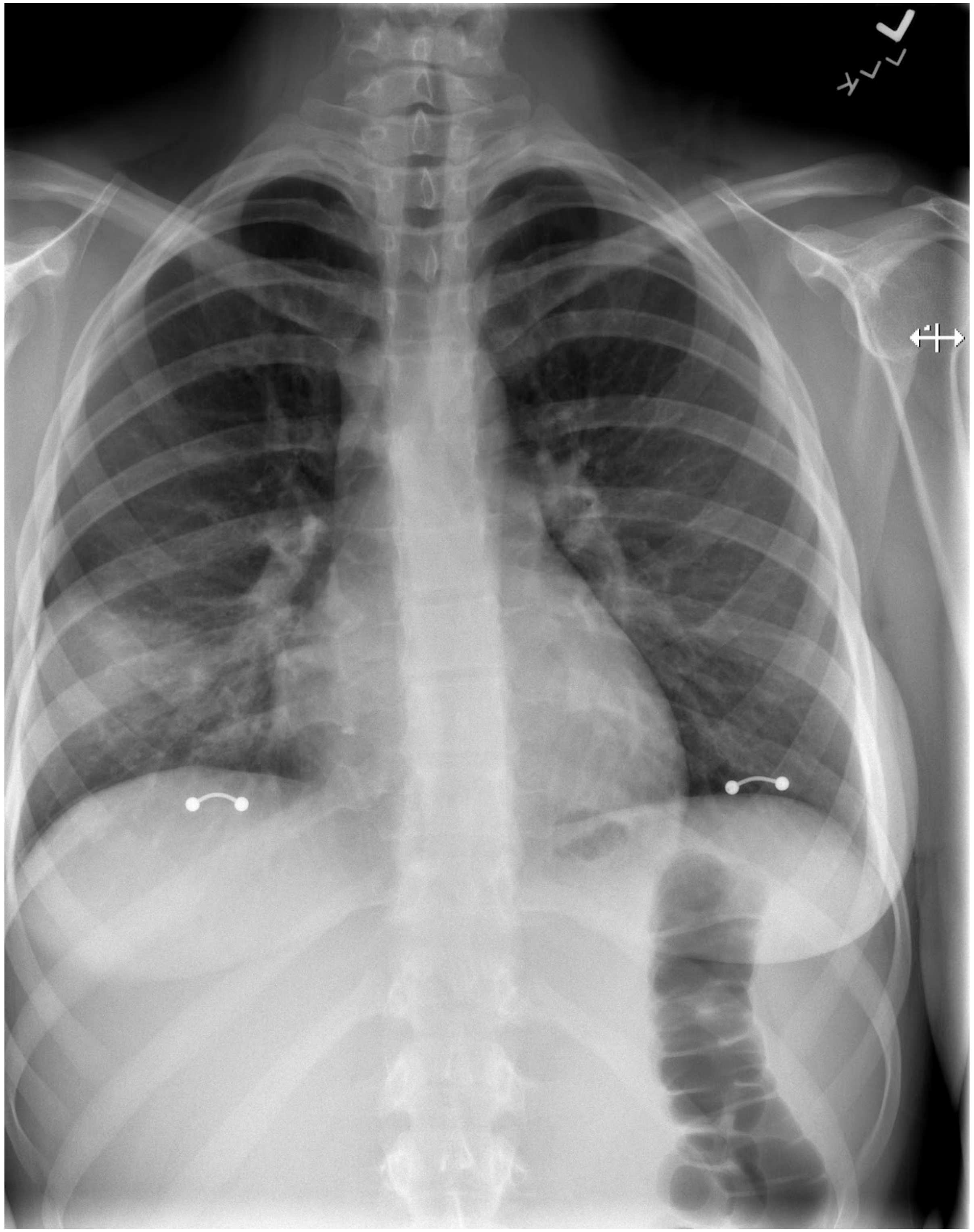
50 YO WITH SOB AND LOWER EXTREMITY EDEMA

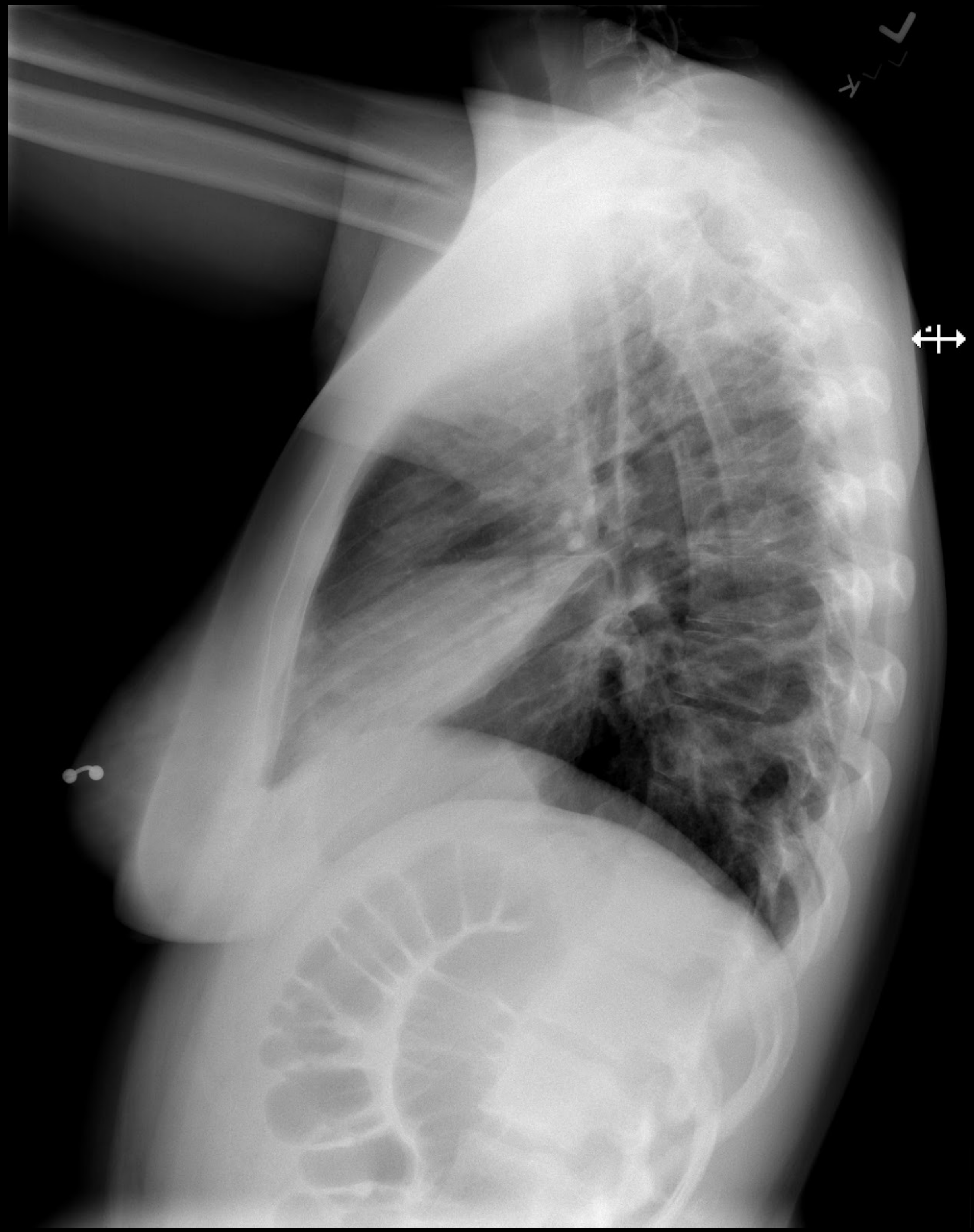

L
AP
PORTABL
ERECT

65 YO WITH FATIGUE, SOB AND COUGH

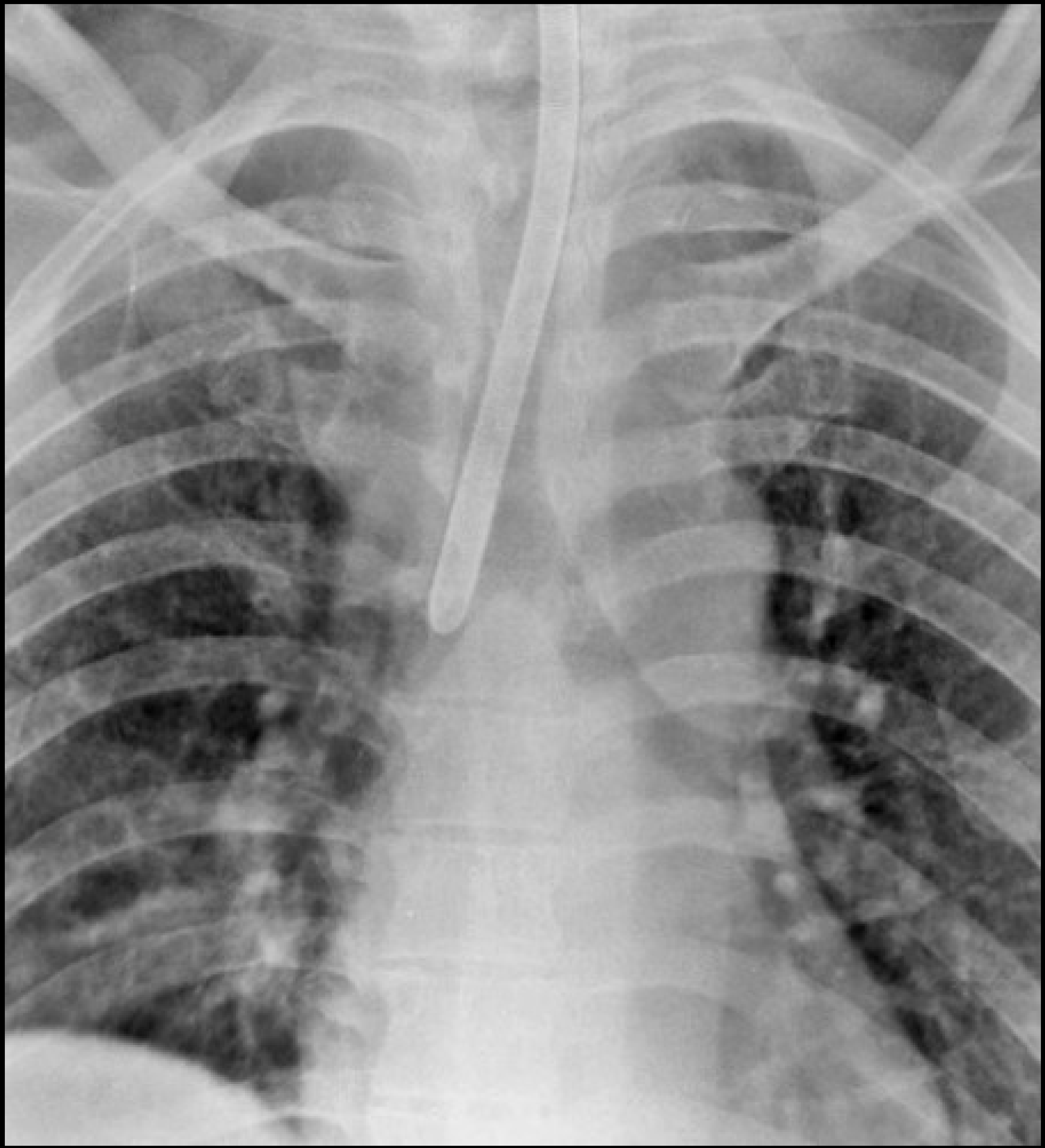

LTM
AP ERECT MOB
P

35 YO WITH FEVER, CHILLS AND COUGH

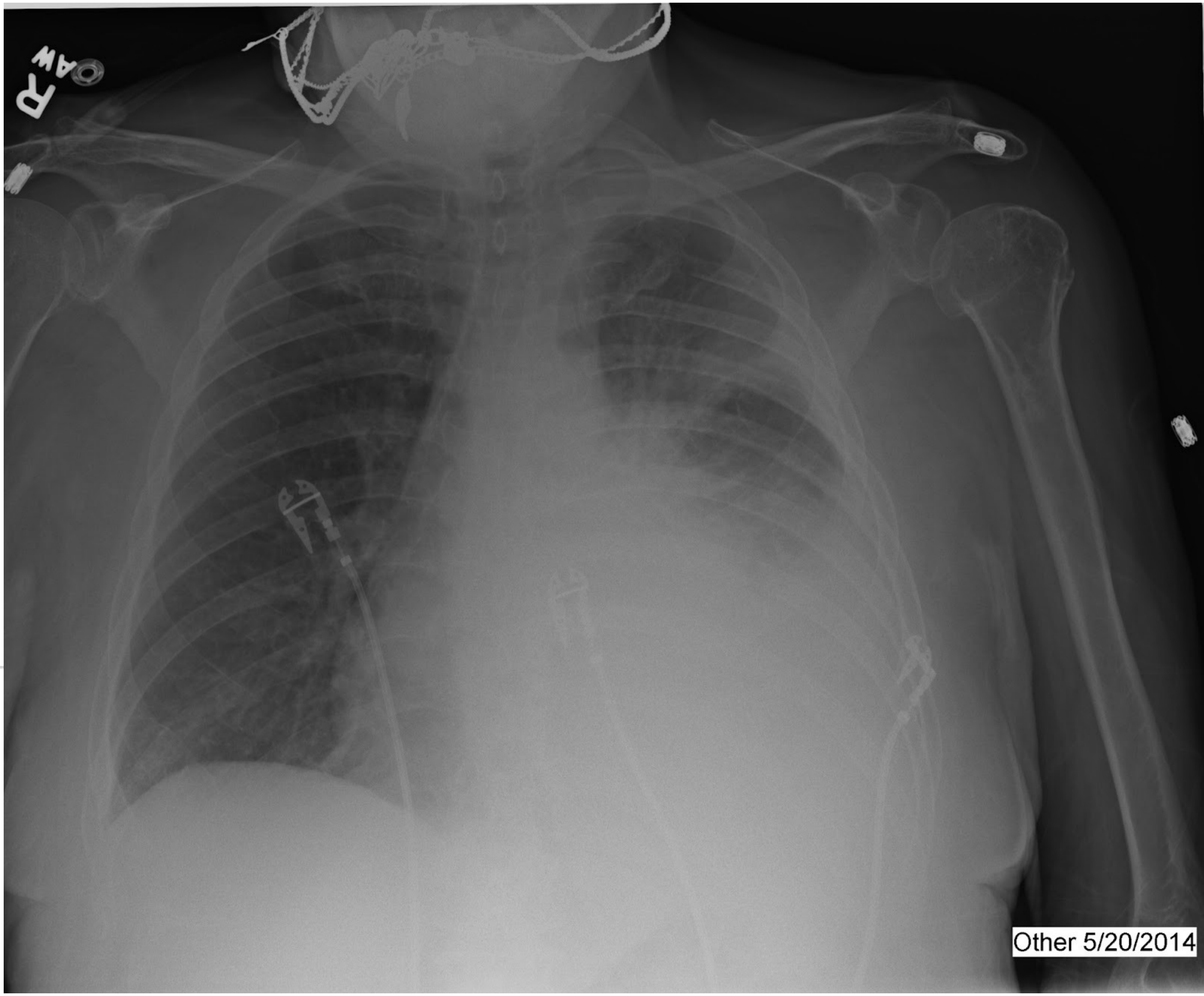




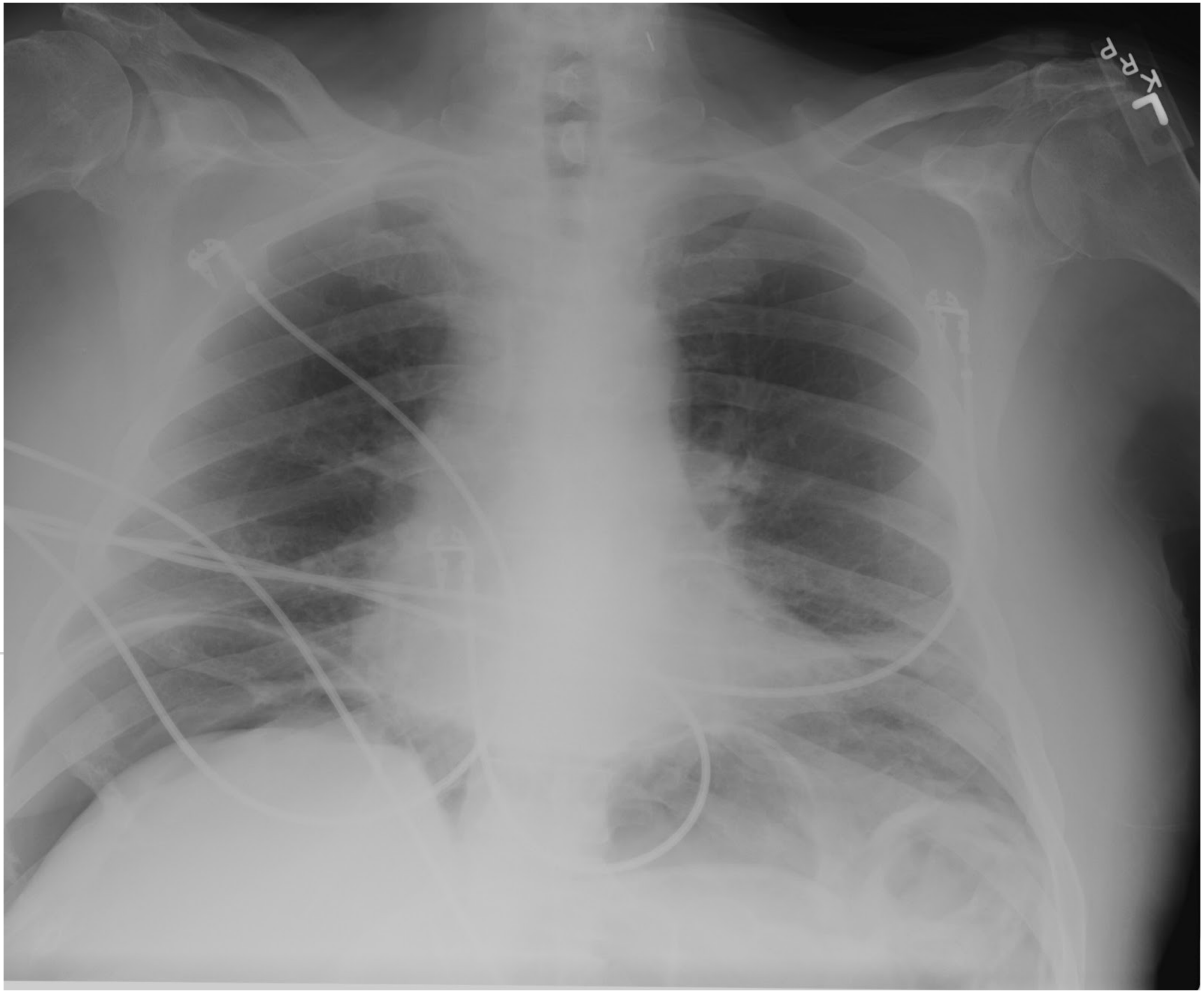
ET TUBE PLACEMENT



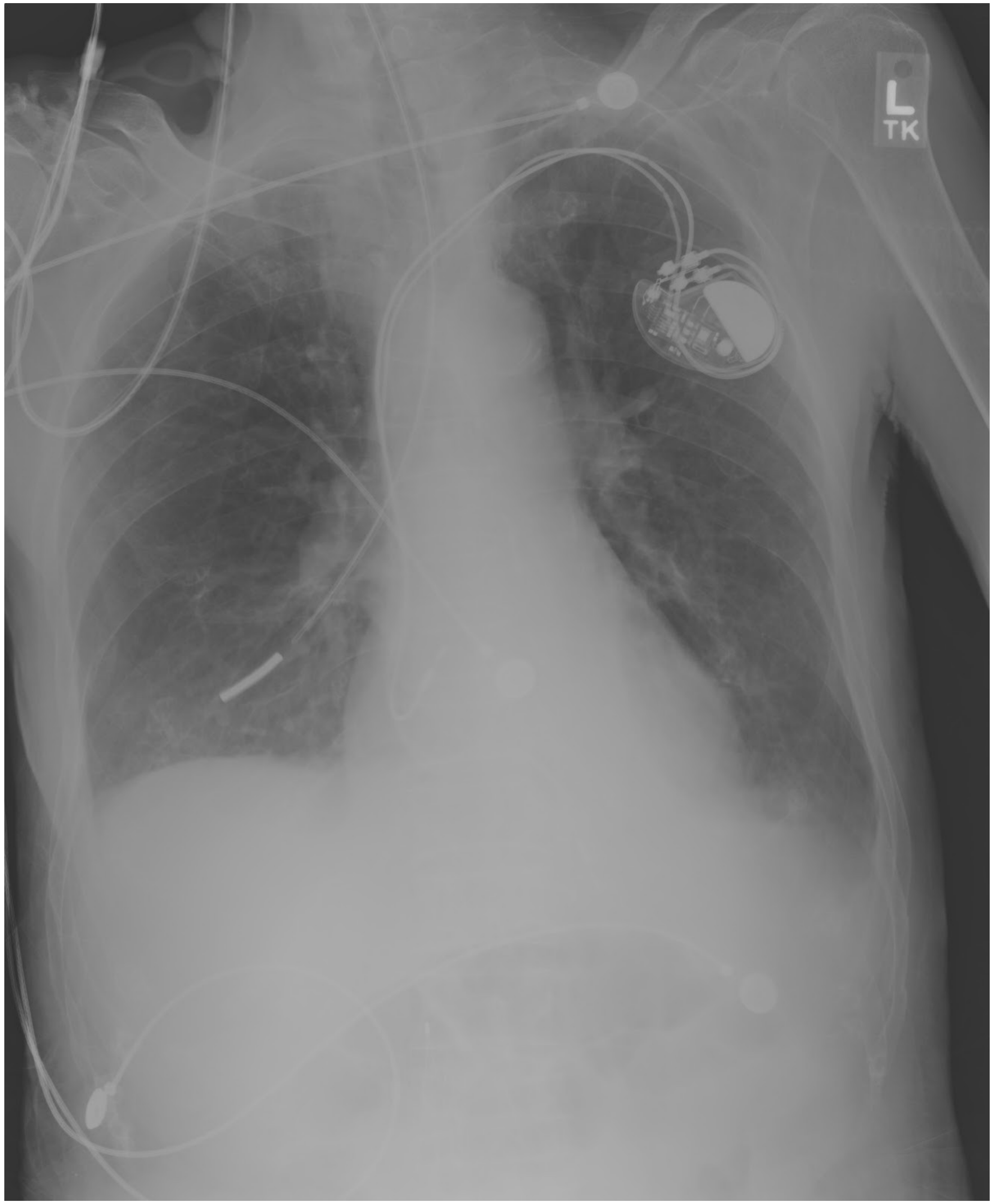
55 YO WITH SOB


R
AW
Other 5/20/2014

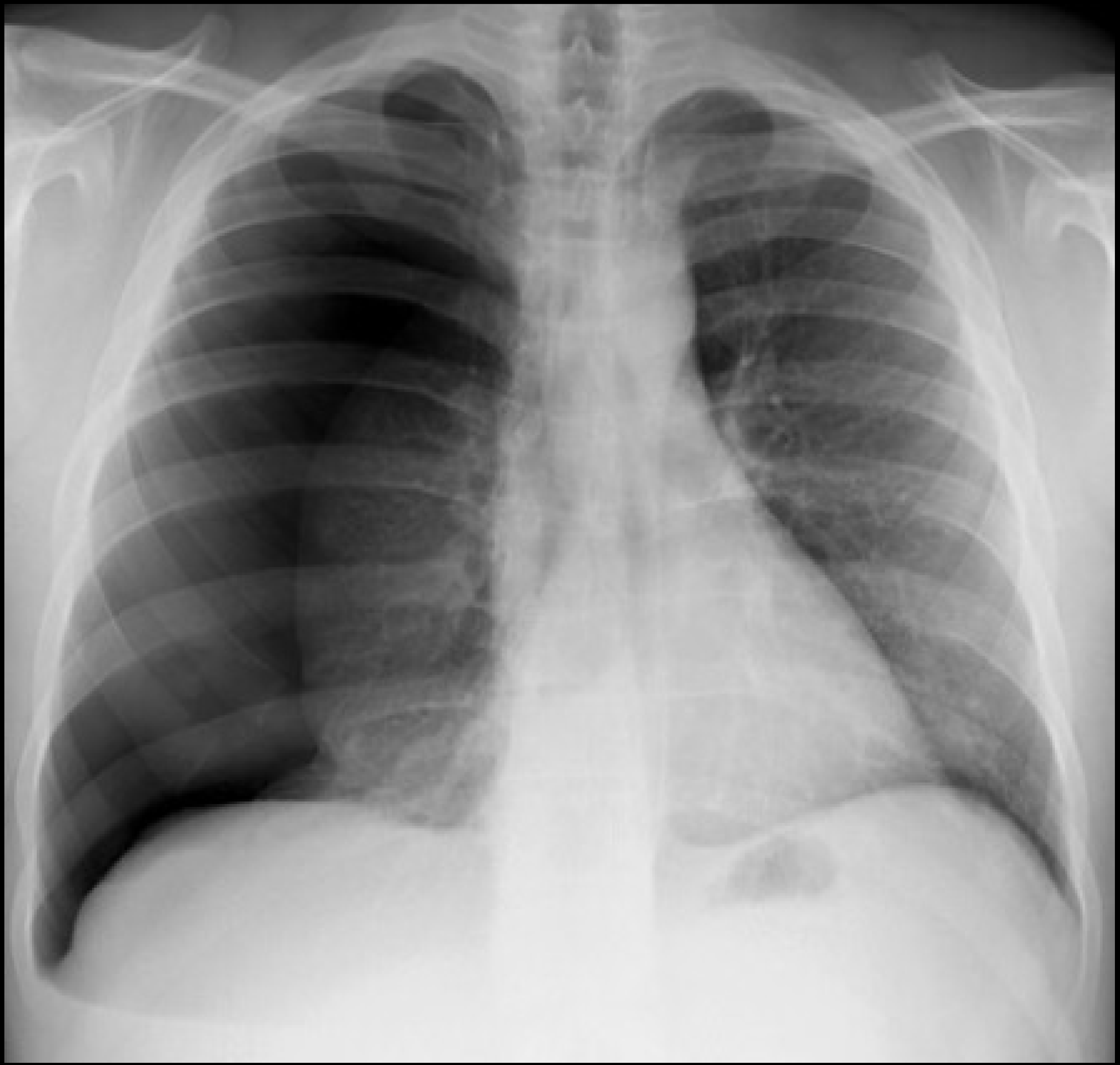
59 YO WITH SUDDEN ONSET OF SEVERE ABDOMINAL PAIN AND TACHYCARDIA



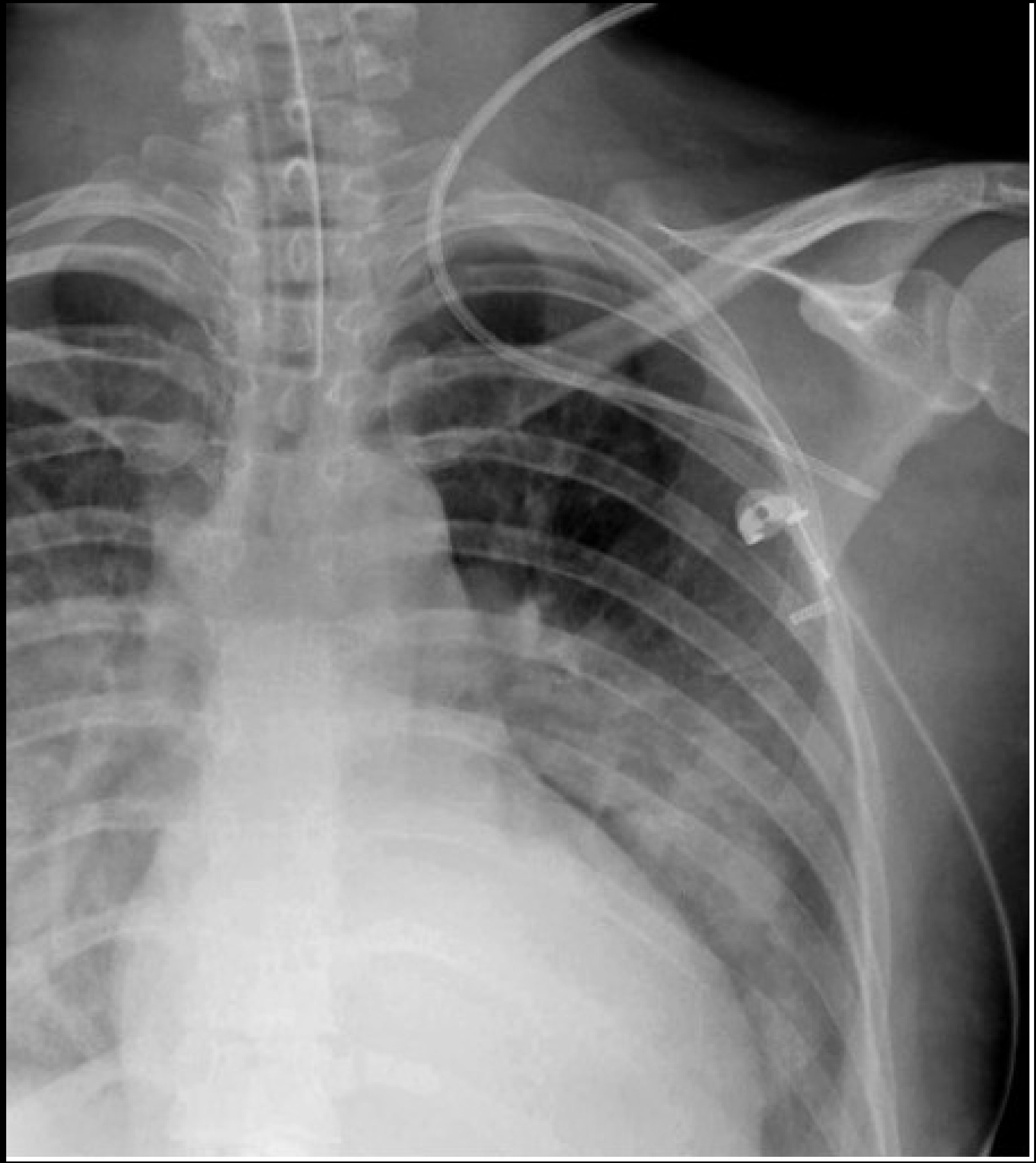
60 YO S/P FEEDING TUBE PLACEMENT



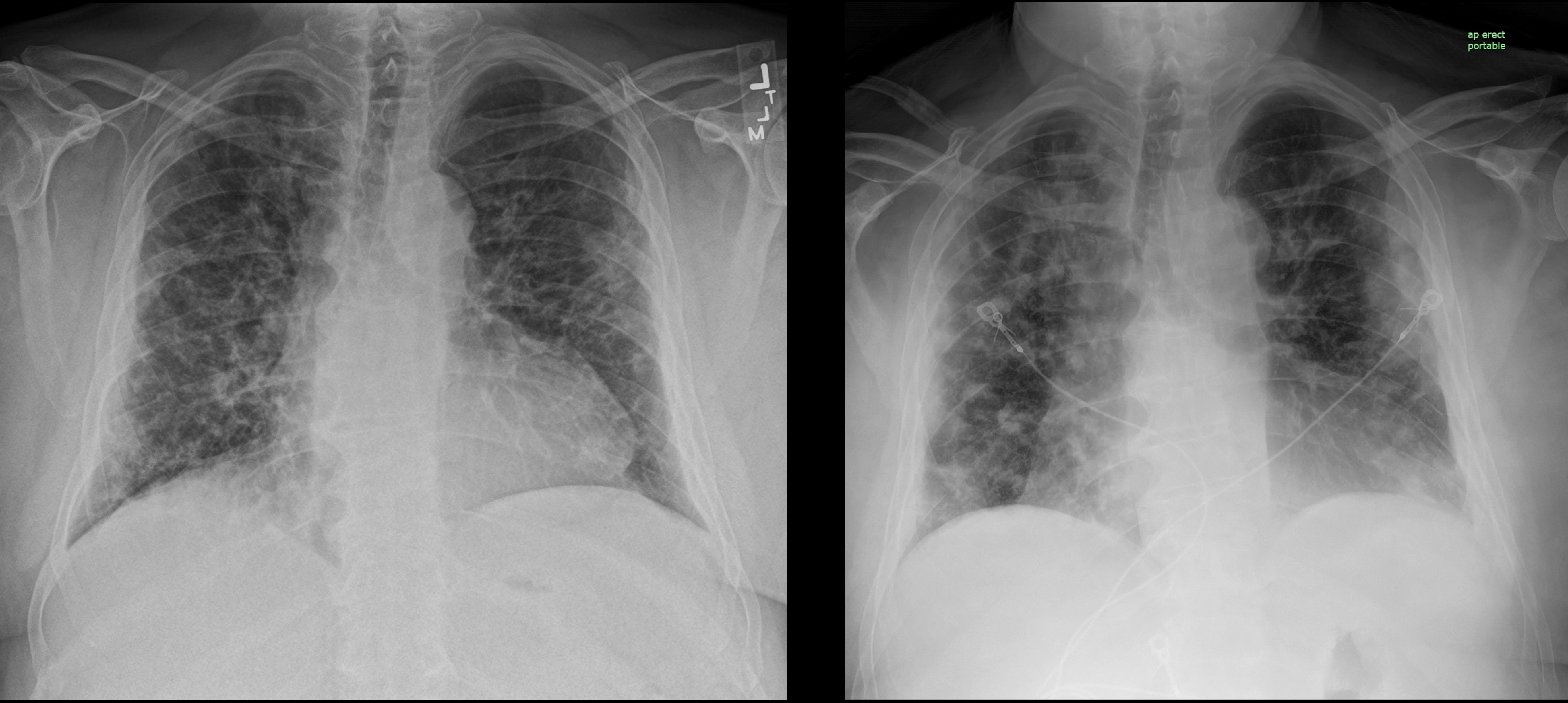
45 YO WITH CHEST TIGHTNESS AND SOB



35 YO S/P CENTRAL LINE PLACEMENT



58 YO WITH COUGH, FEVER AND MUSCLE ACHES


L
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ap erect
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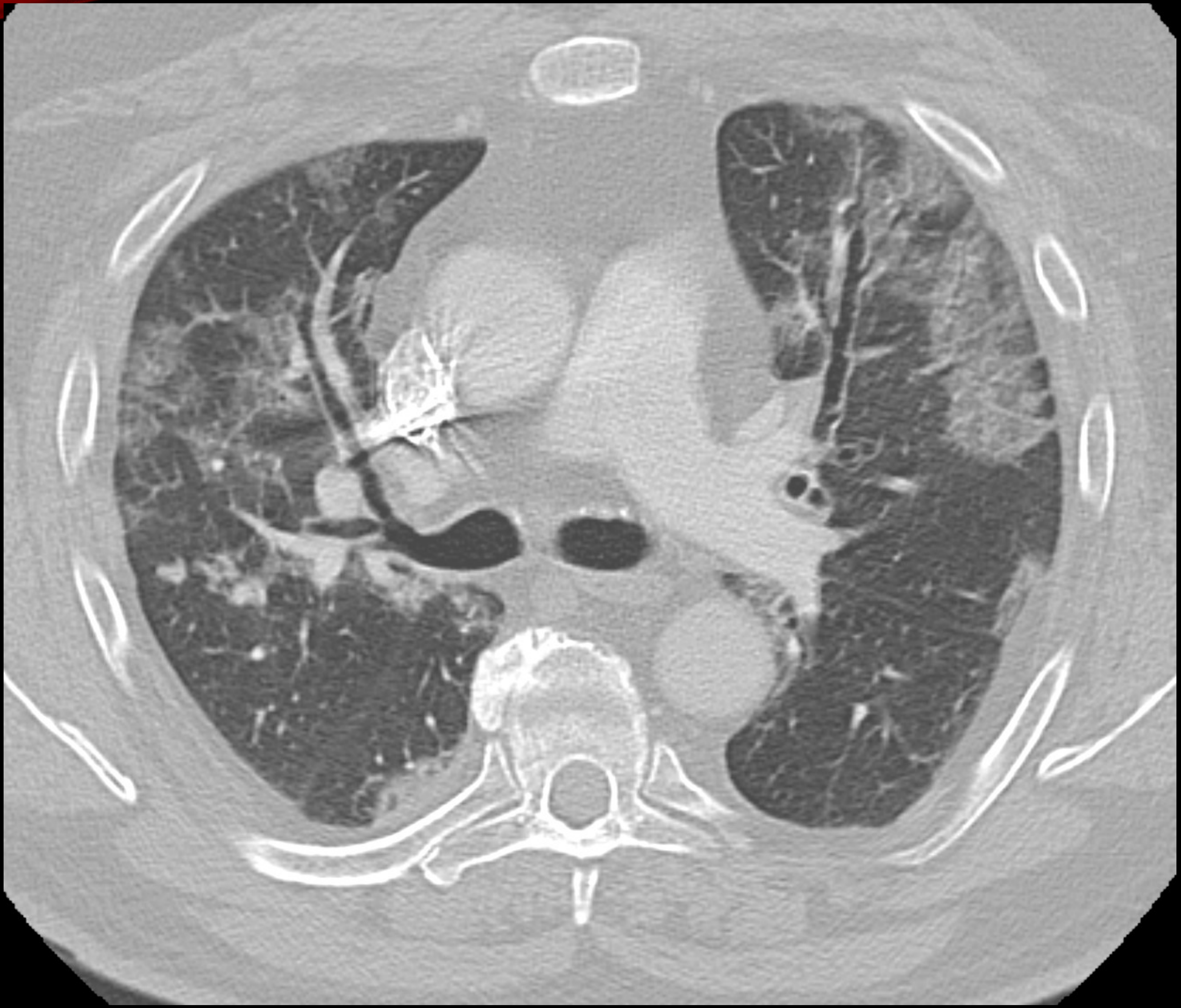
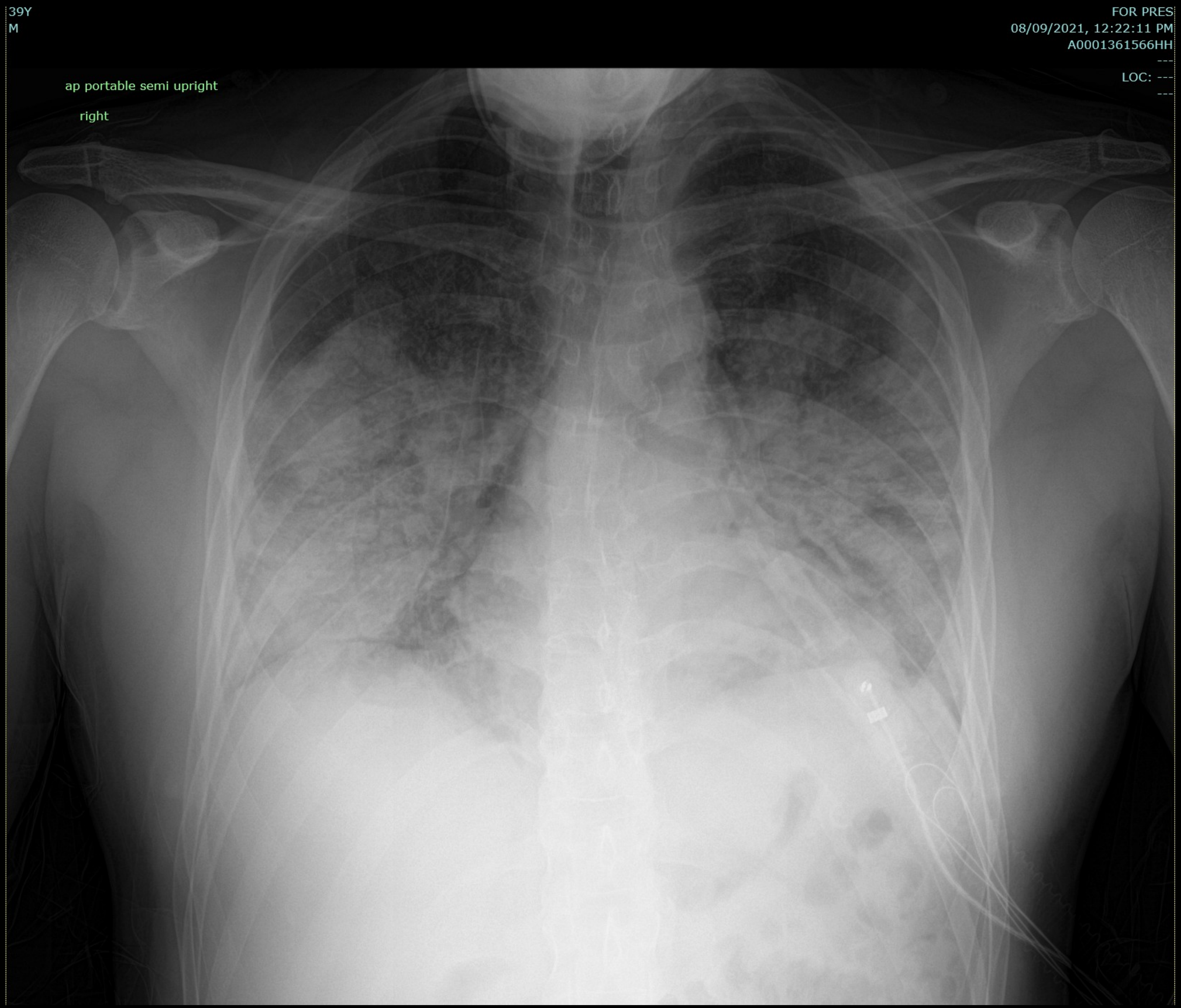
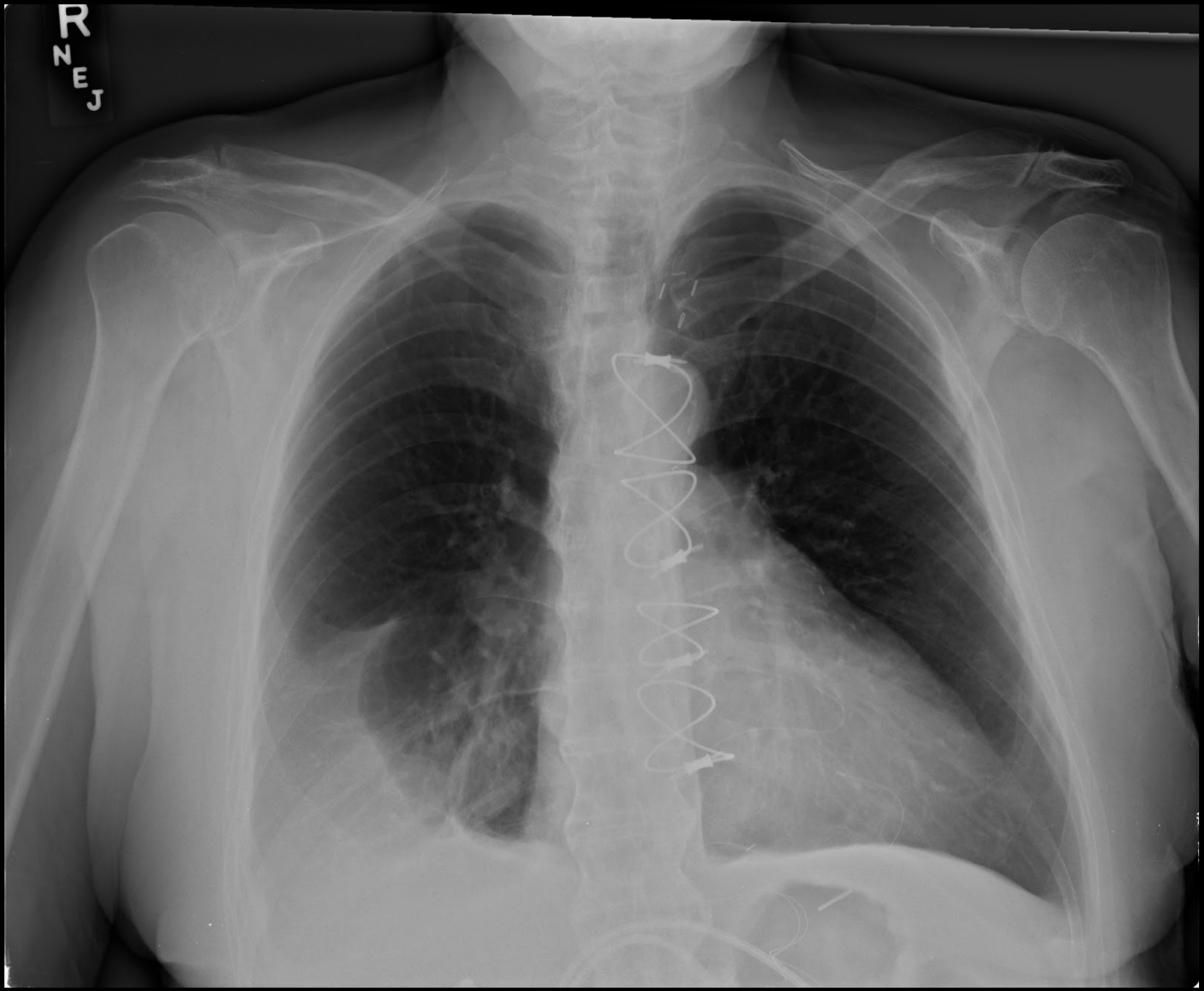


55 YO WITH COUGH, SOB AND FEVER/CHILLS

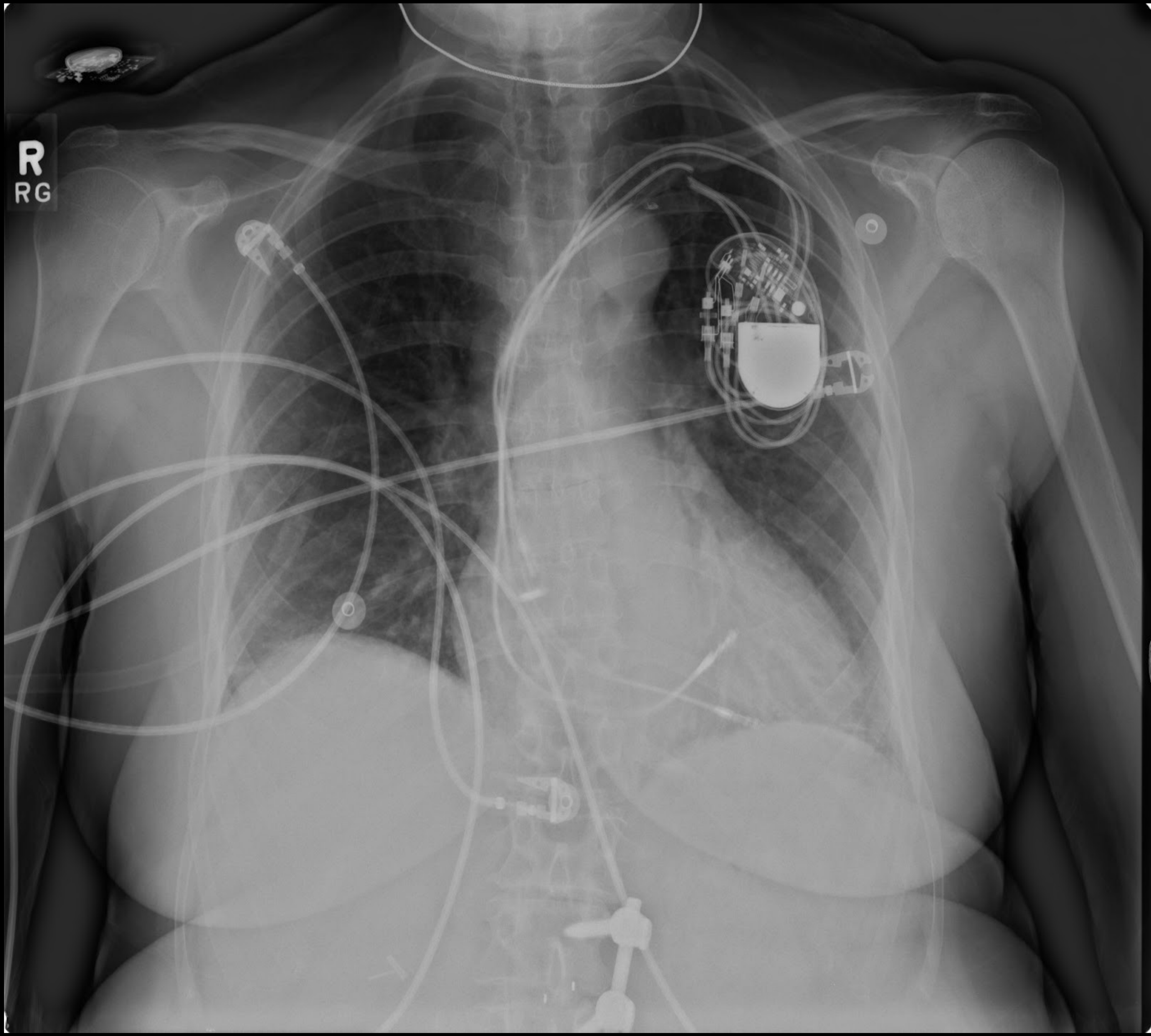

39Y
M
FOR PRES
08/09/2021, 12:22:11 PM
A0001361566HH

LOC: ---
---
ap portable semi upright
right

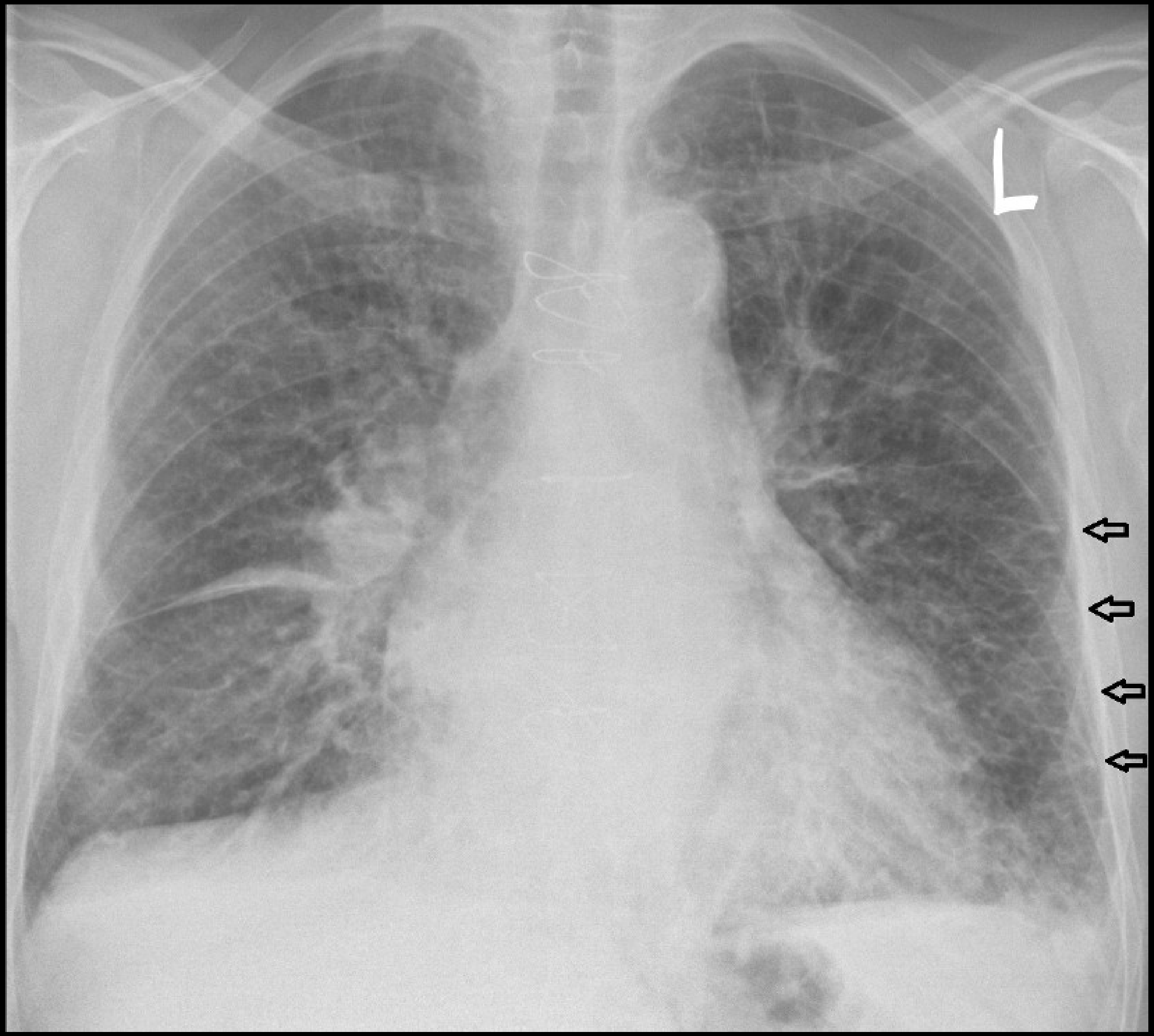
62 YO S/P CABG WITH DYSPNEA ON EXERTION



60 YO WITH PACEMAKER PRESENTS WITH SYNCOPE, DIZZINESS AND PALPITATIONS

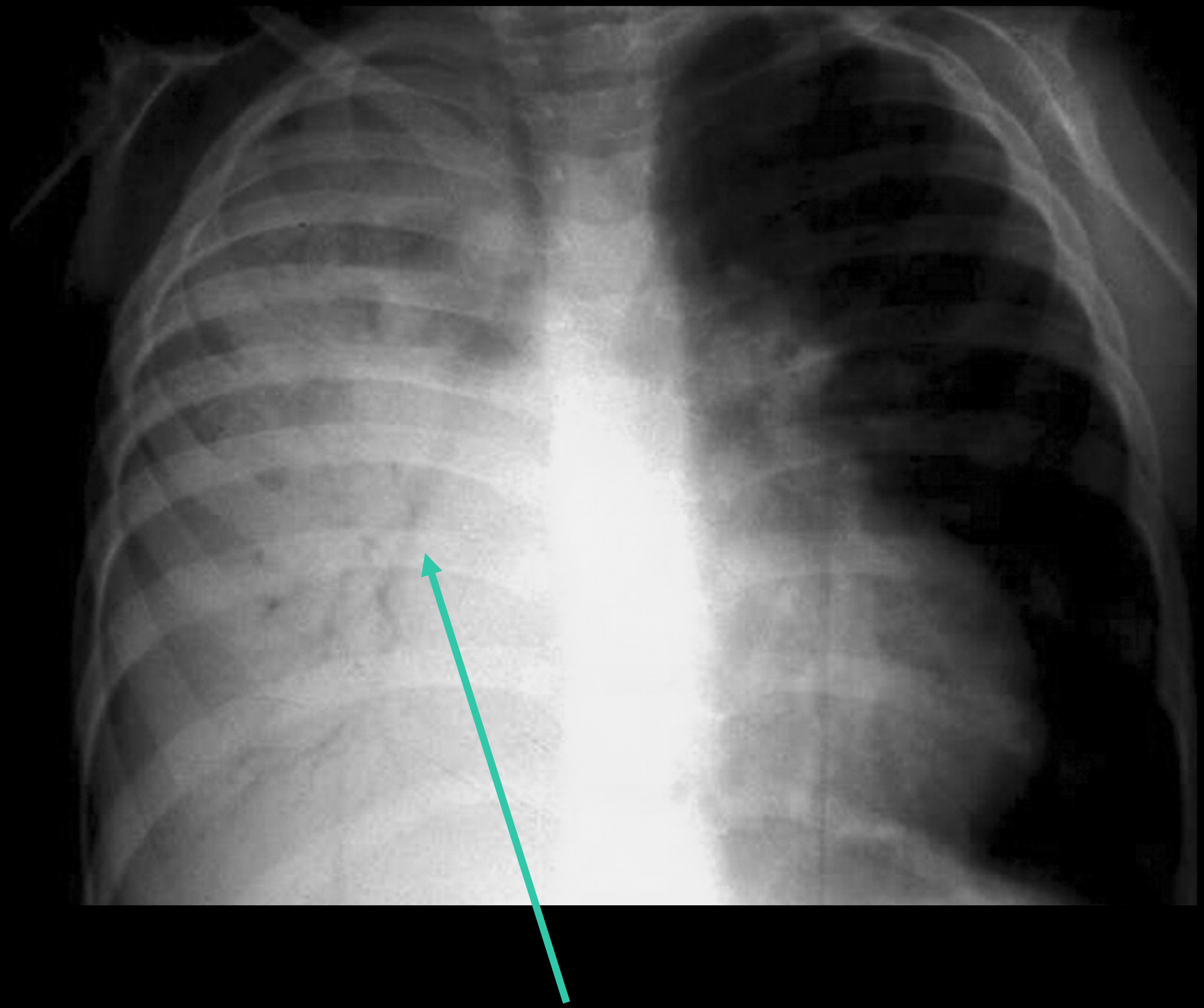


QUESTION



Are these opacities an example of airspace disease or interstitial disease?

QUESTION



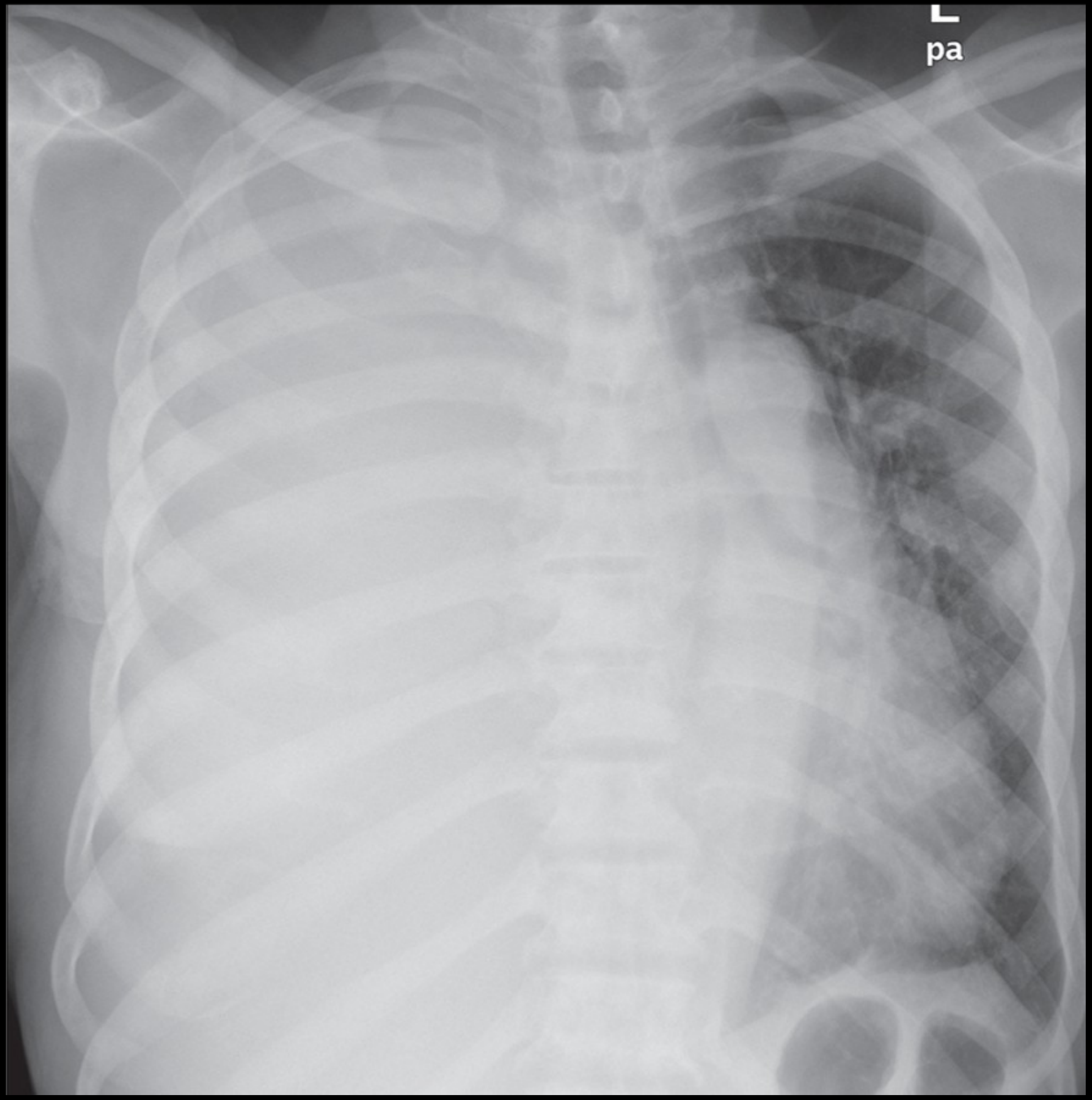
The (CHOOSE: air bronchogram / meniscus / silhouette) sign describes these lucent branching features on chest radiography, and is a sign that the surrounding opacity is (CHOOSE: airspace / interstitial) disease.

Please choose a answer for both sets of parentheses

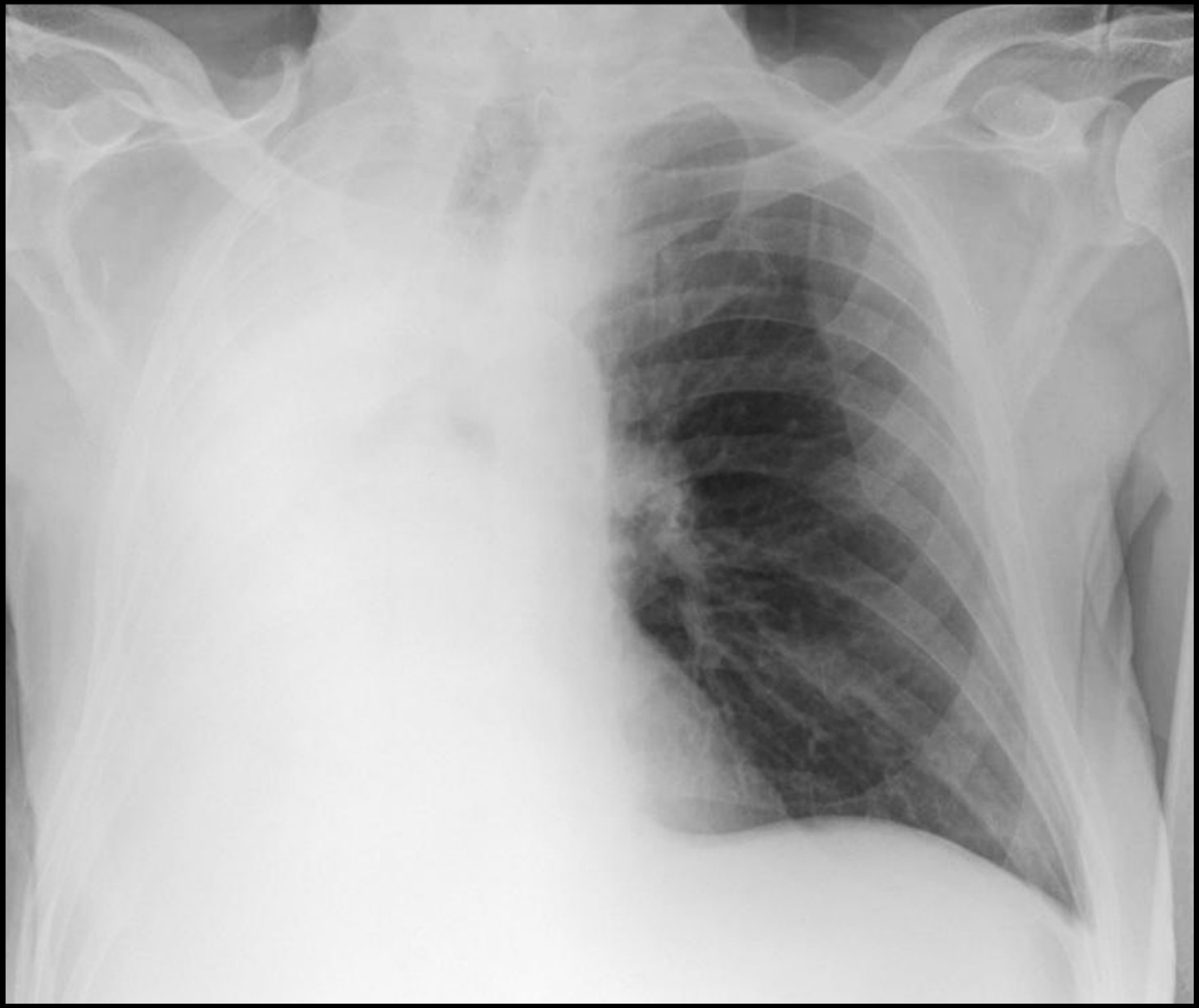
QUESTION

This white-out right hemithorax could result from pleural effusion or atelectasis. These possibilities can be distinguished by looking for signs of mass effect.

Is this white-out from **pleural effusion** or **atelectasis**?



QUESTION



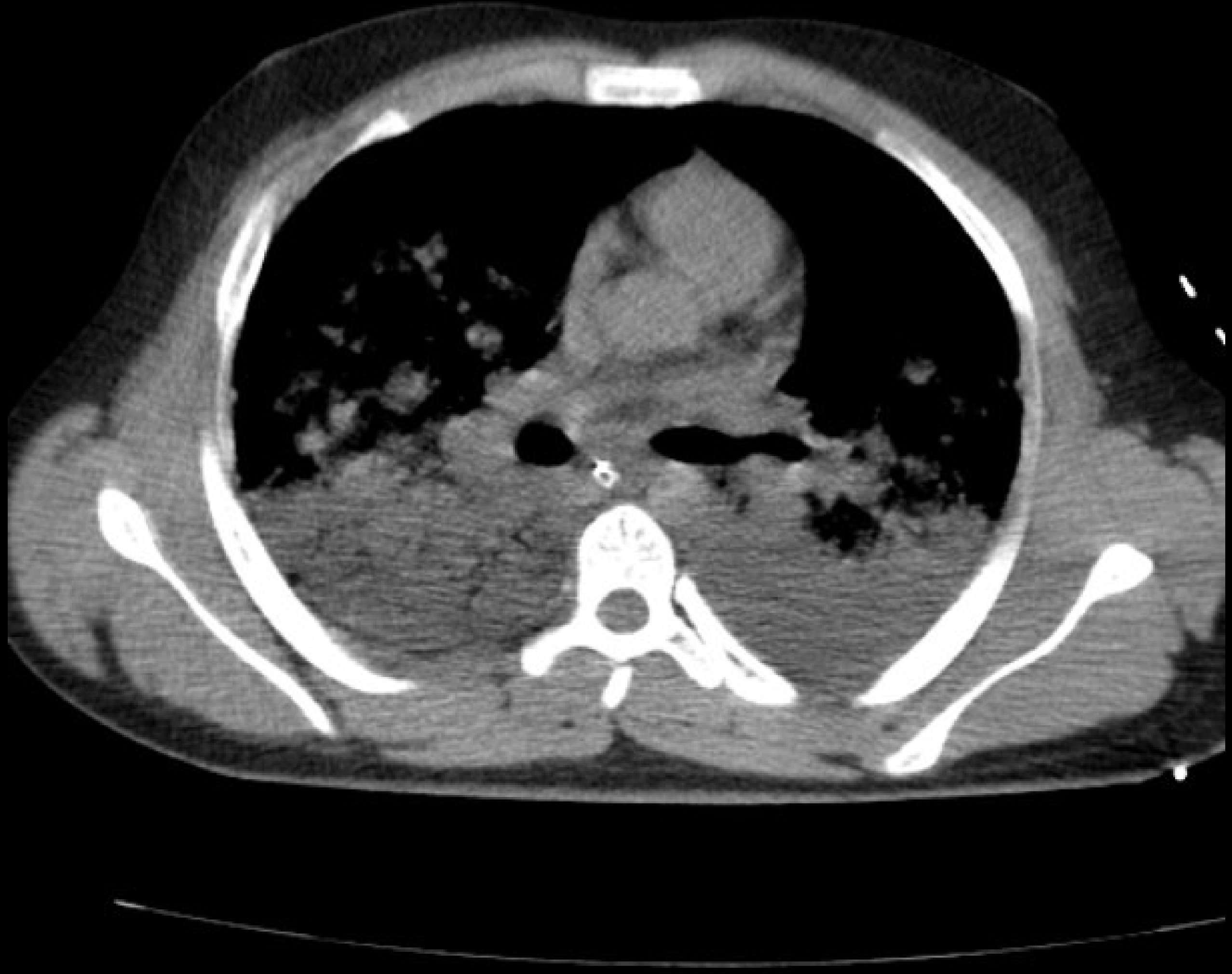
This white-out right hemithorax could result from pleural effusion or atelectasis. These possibilities can be distinguished by looking for signs of mass effect.

Is this white-out from **pleural effusion** or **atelectasis**?

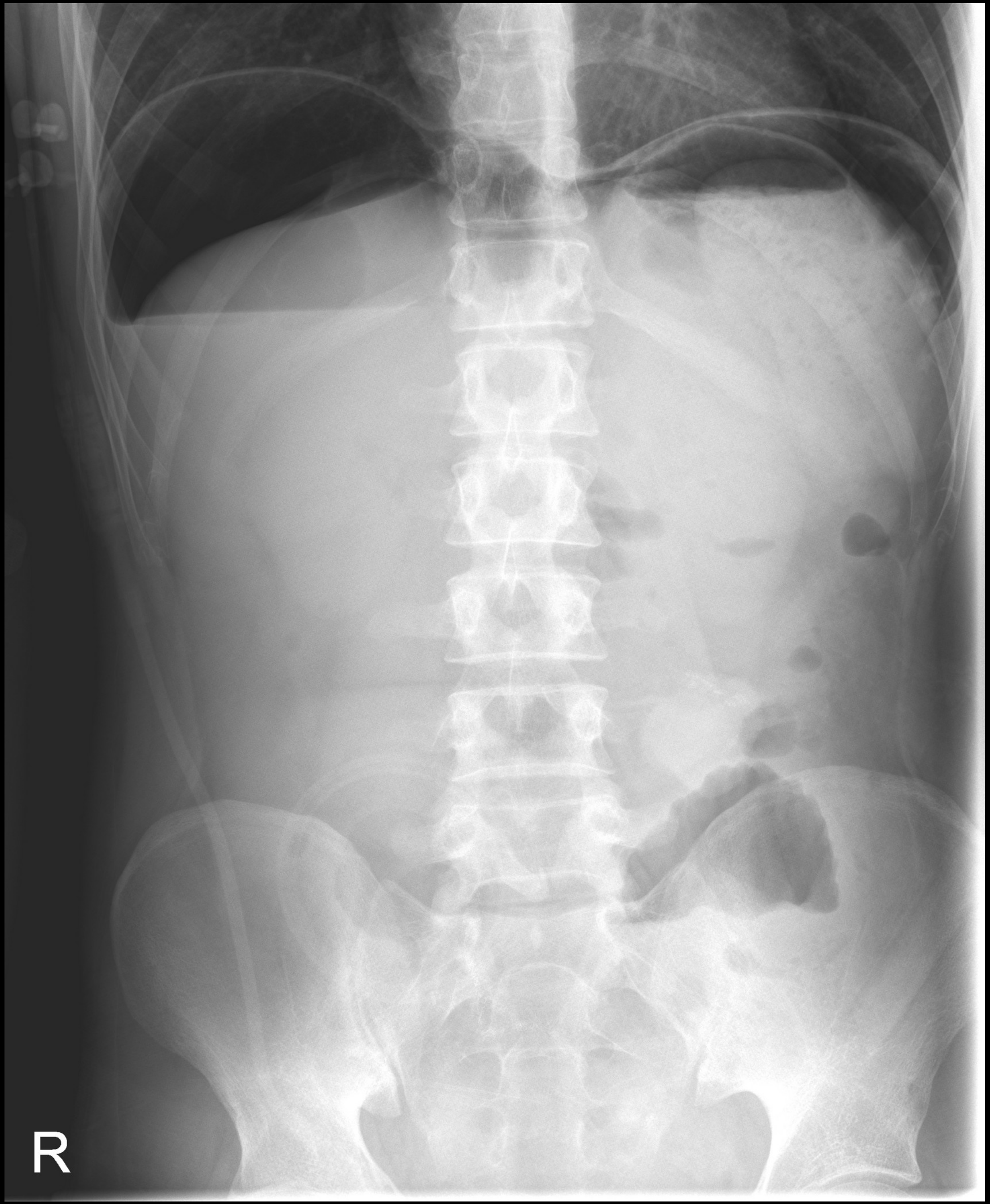
QUESTION

This CT shows bilateral airspace disease, predominating in the dependent aspect of both lungs. The clinical picture is consistent with pneumonia. What kind of pneumonia would be favored, based on the distribution of disease?

CHOOSE: aspiration / tuberculosis / influeza



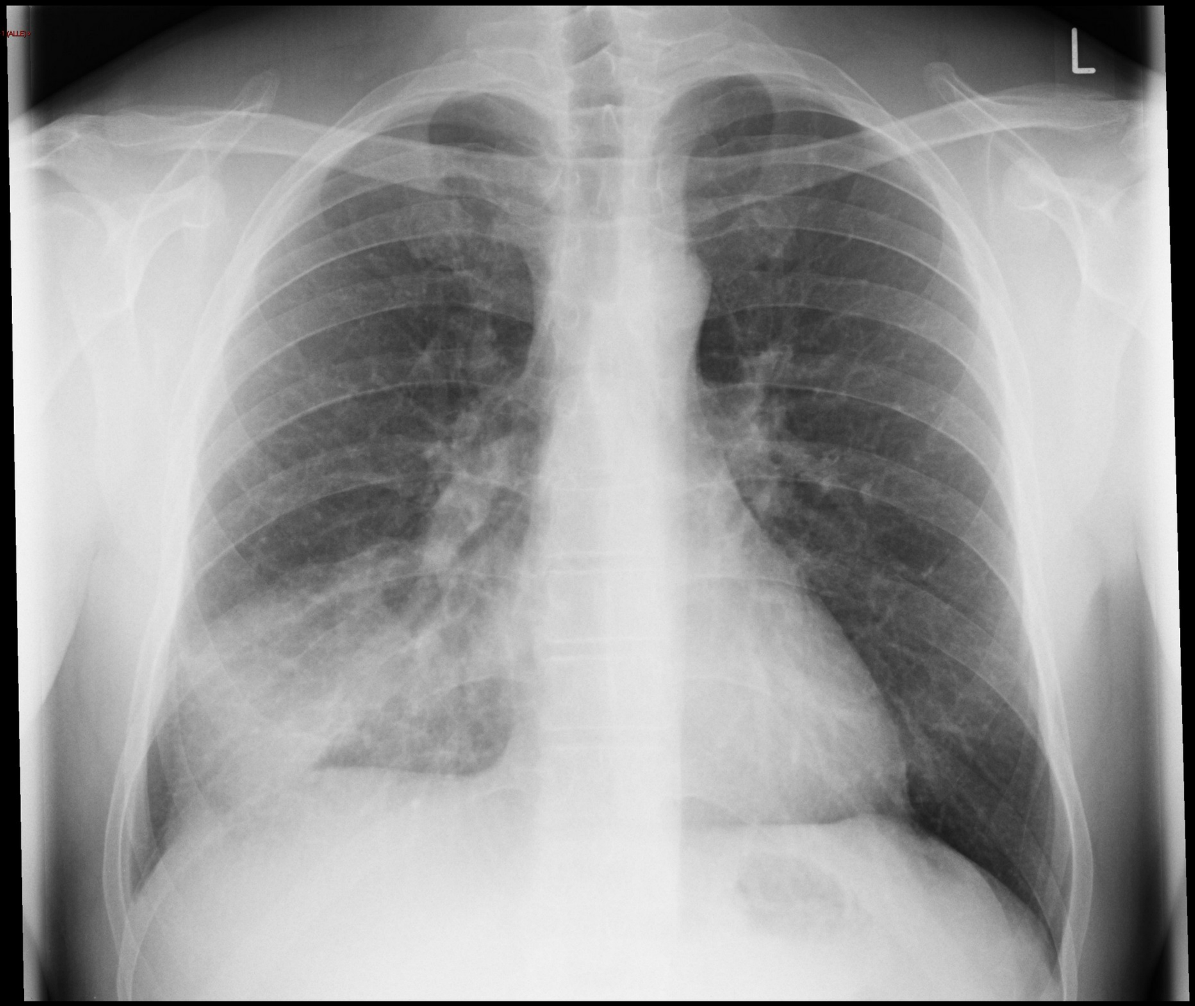
QUESTION



This abdominal radiograph shows a surgical emergency. What is the emergent finding?

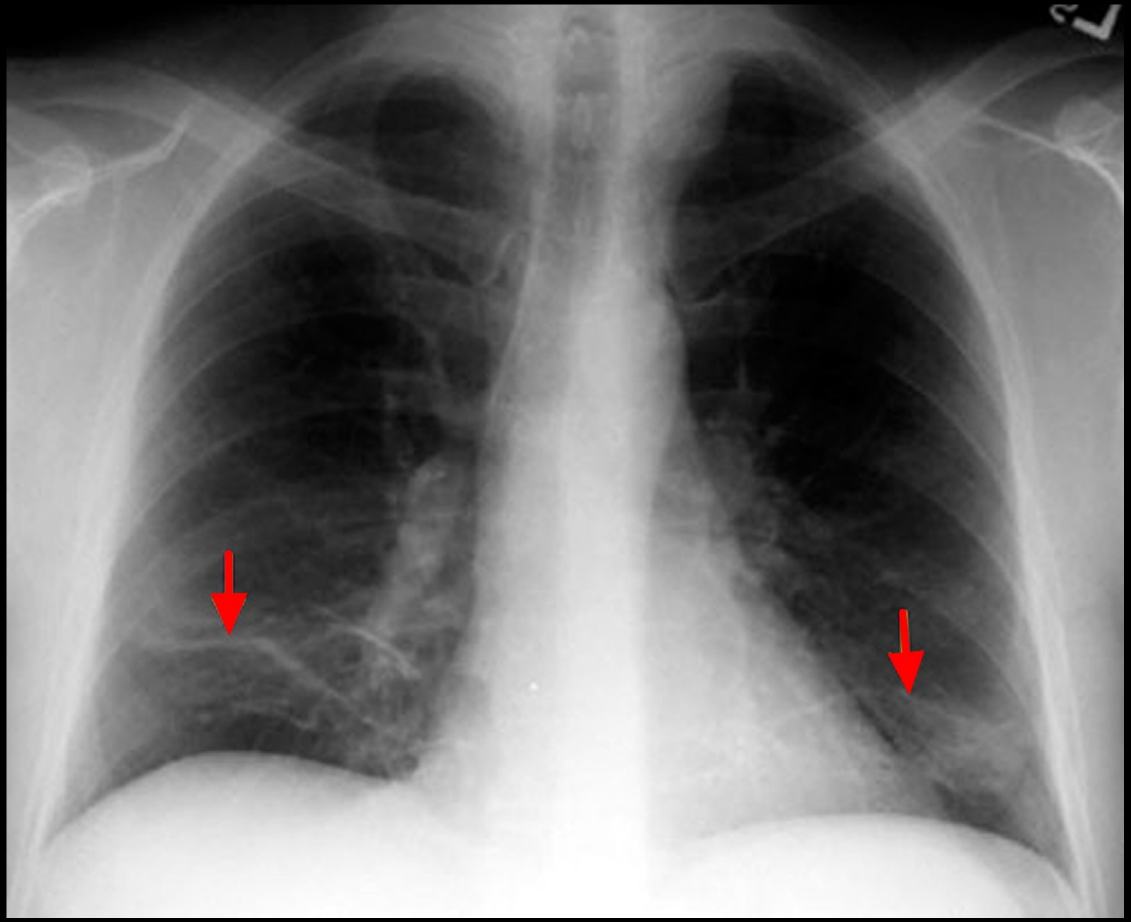
QUESTION

The clinical history is fever and productive cough. What is the diagnosis?

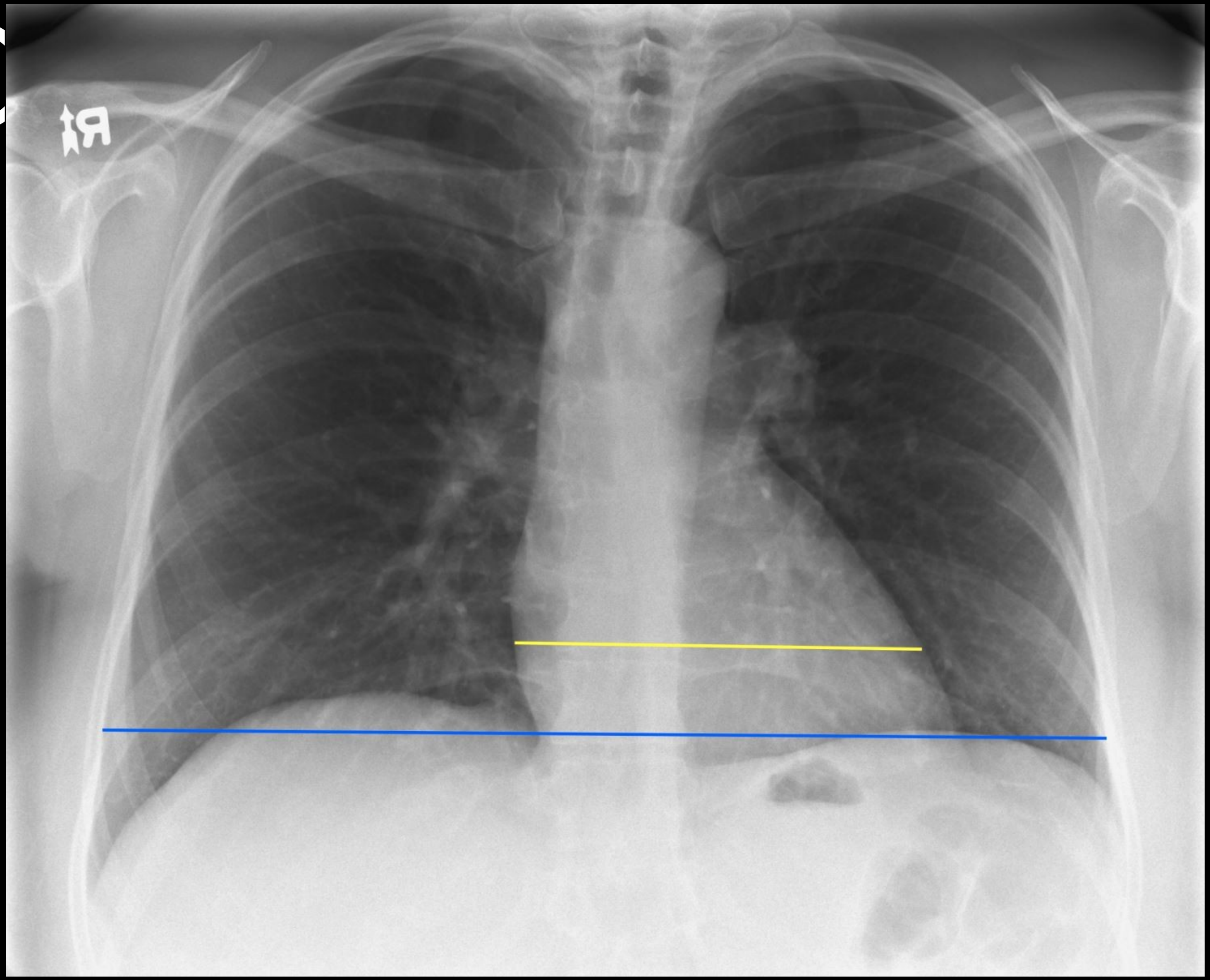


QUESTION

The arrows indicate a common radiographic opacity. It is often described as linear, or discoid, or subsegmental. What term describes such opacities, representing collapsed airless alveoli?



MULTIPLE CHOIC



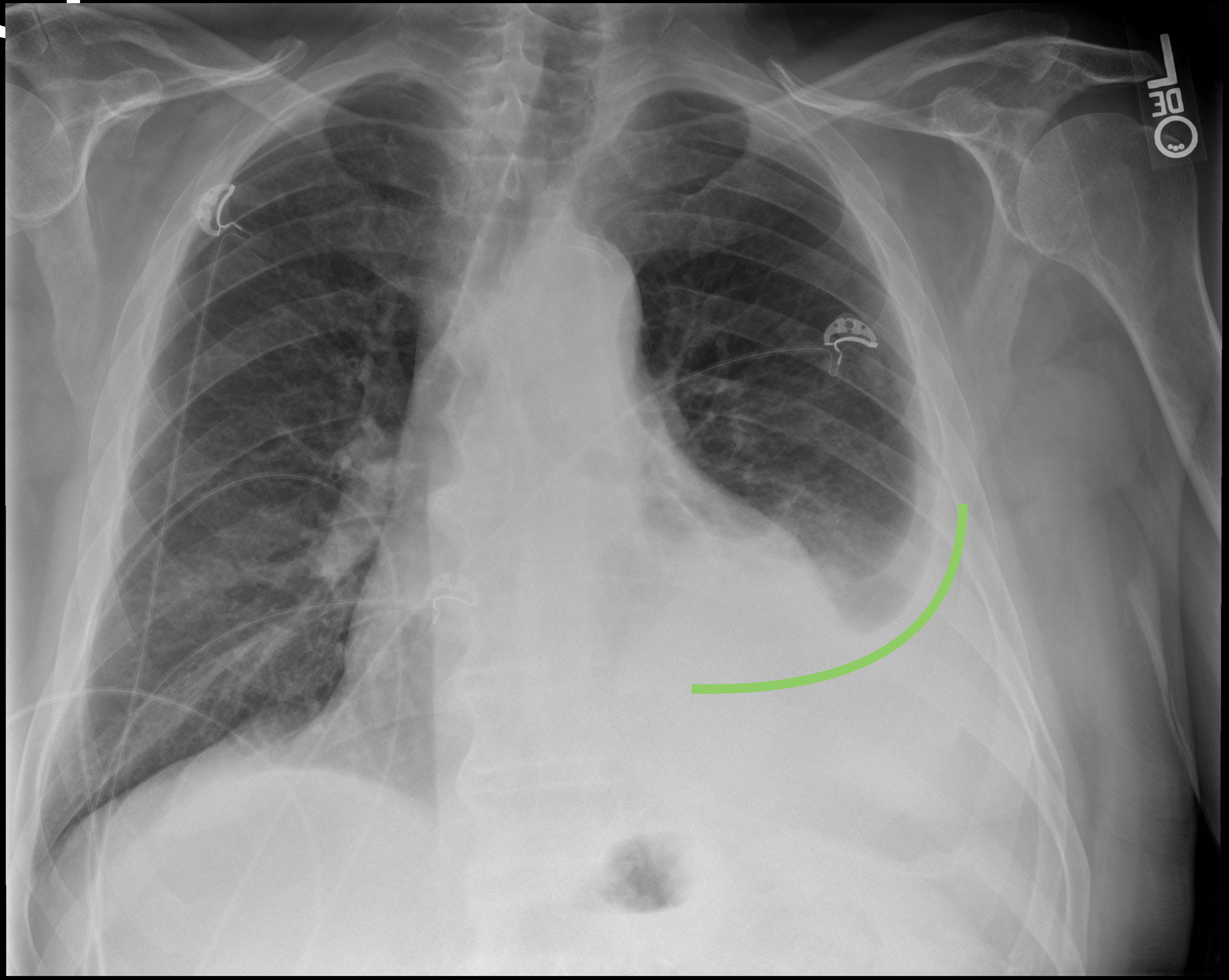
To estimate whether cardiomegaly is present, the ratio of the maximum transverse dimension of the heart and the maximum transverse dimension of the thorax can be obtained. On a PA radiograph of a normal patient, what is the maximum permissible cardiothoracic ratio?

a) 20%
b) 50%
c) 75%
d) 85%

MULTIPLE CHOICE

The meniscus sign is a reliable indicator of what kind of opacity?

a) Consolidation
b) Pleural effusion
c) Fibrosis
d) Pneumothorax



MULTIPLE CHOICE

In an intubated ICU patient, which type of chest radiograph is feasible?

a) AP chest

b) PA/Lat chest

MULTIPLE CHOICE

What type of pulmonary opacity is most commonly observed on CT in COVID-19 patients?

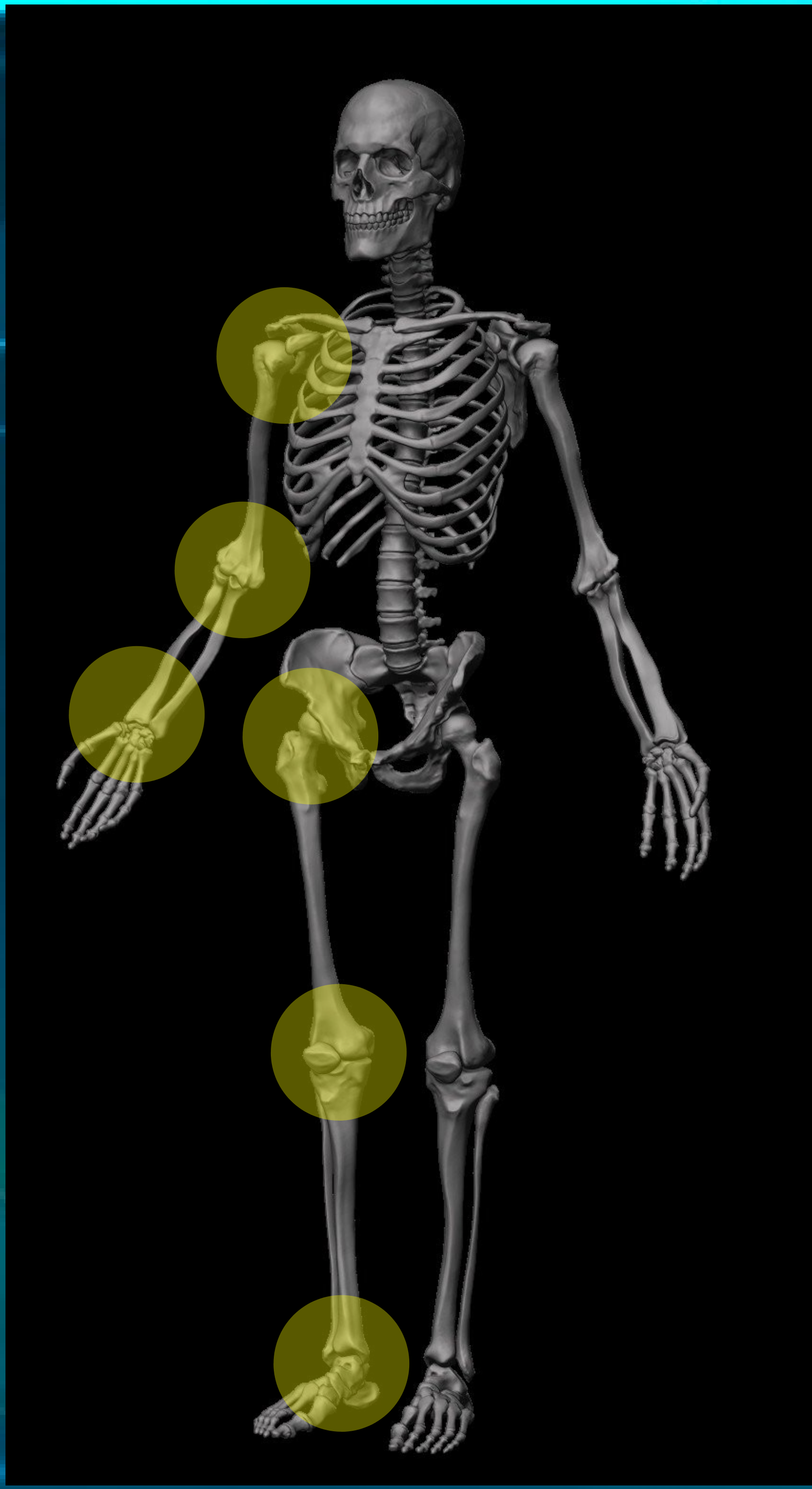
a) Ground glass opacity
b) Consolidation
c) Spiculated mass
d) Calcification

Joint effusions

An often overlooked but sensitive clue for:

- Occult fracture
- Soft tissue injury
- Infection
- Inflammation

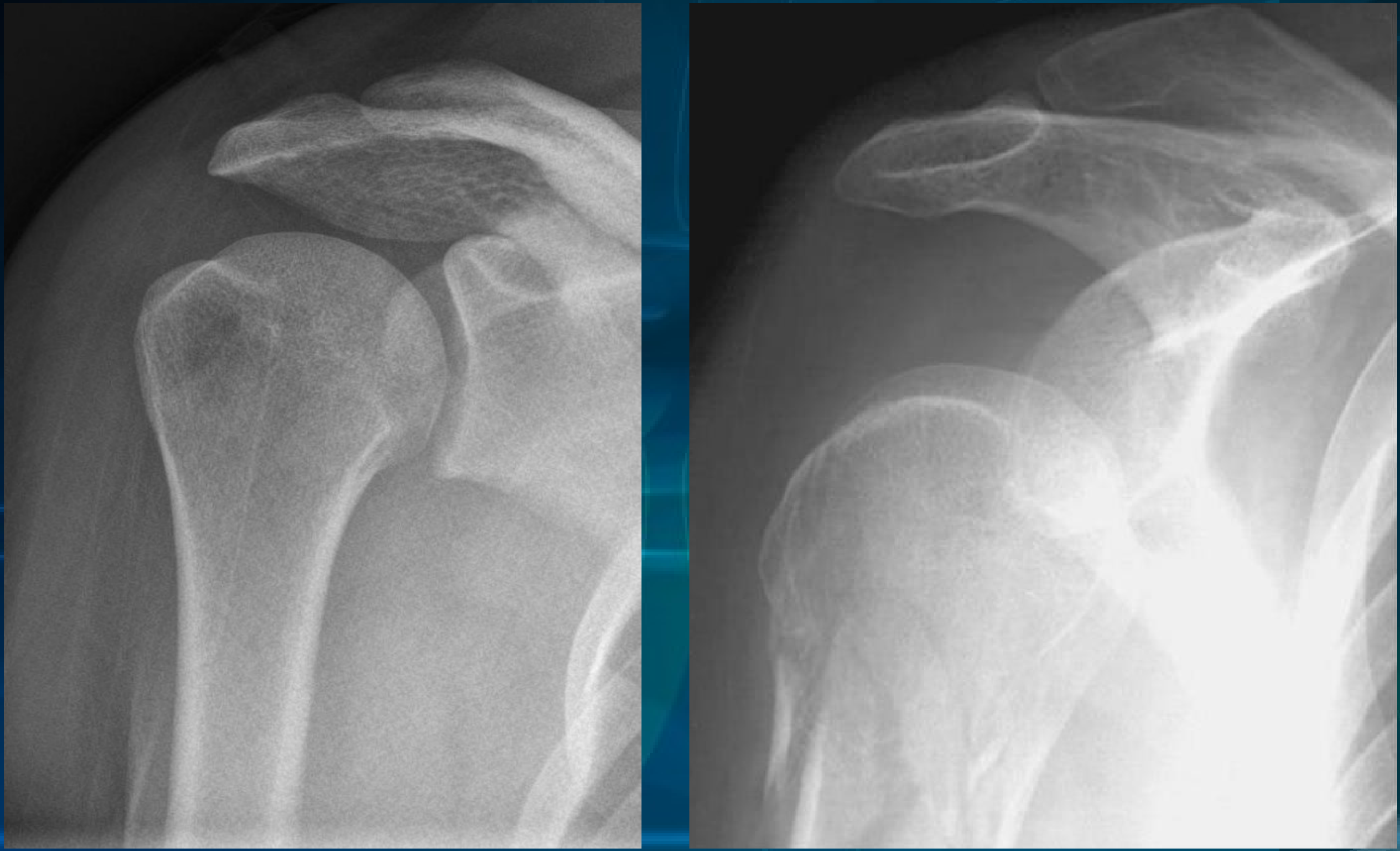
Joint effusions



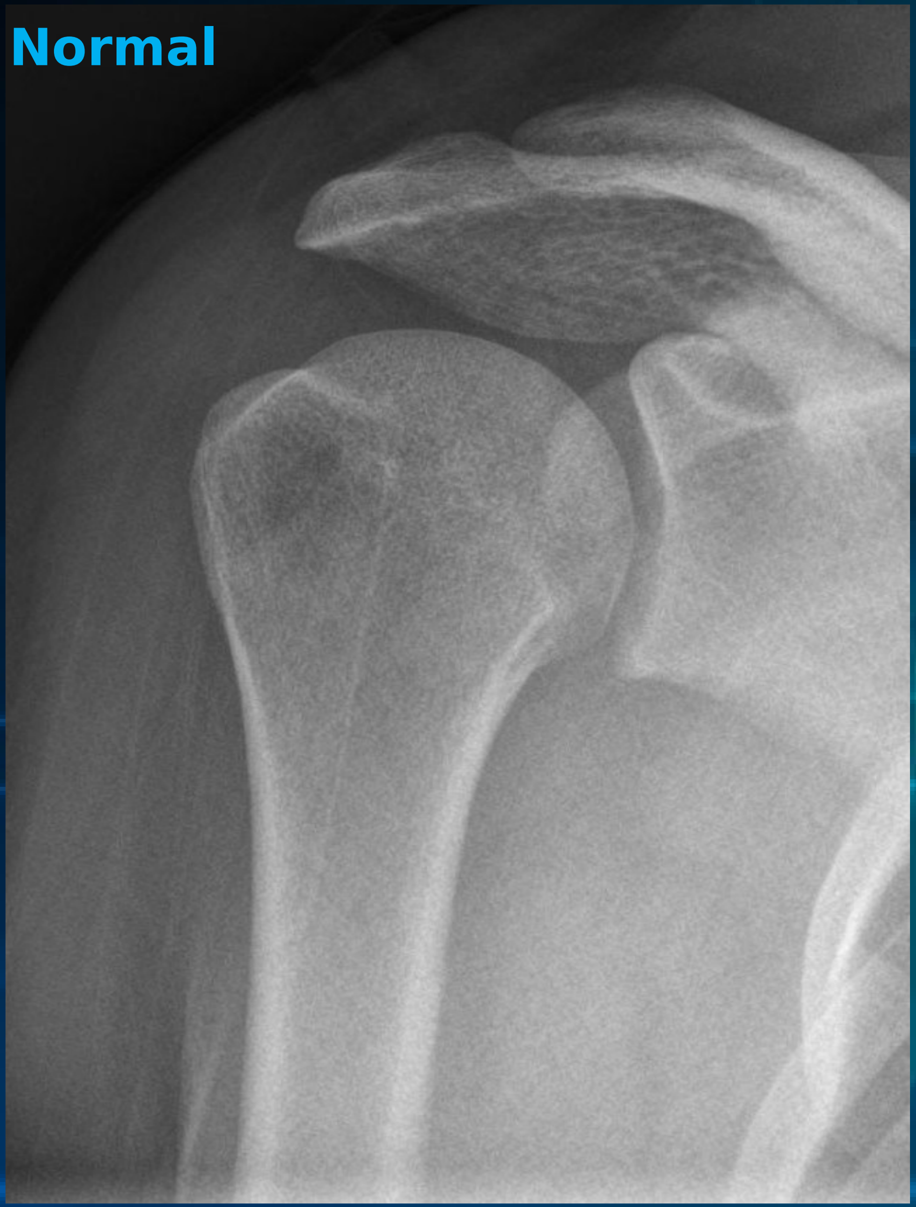
An often overlooked but sensitive clue for:

Occult fracture
Soft tissue injury
Infection
Inflammation

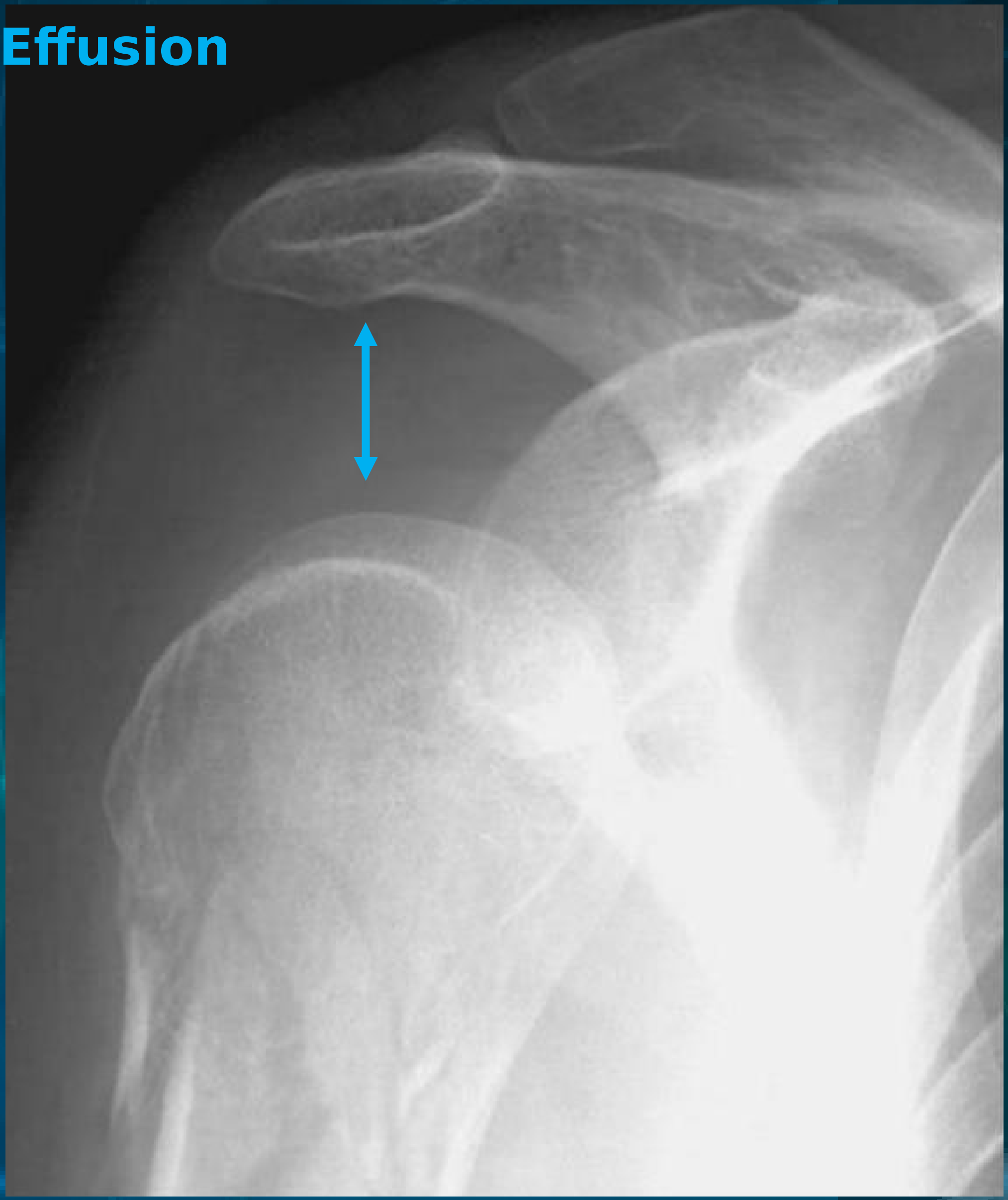
Shoulder effusions



Shoulder effusions



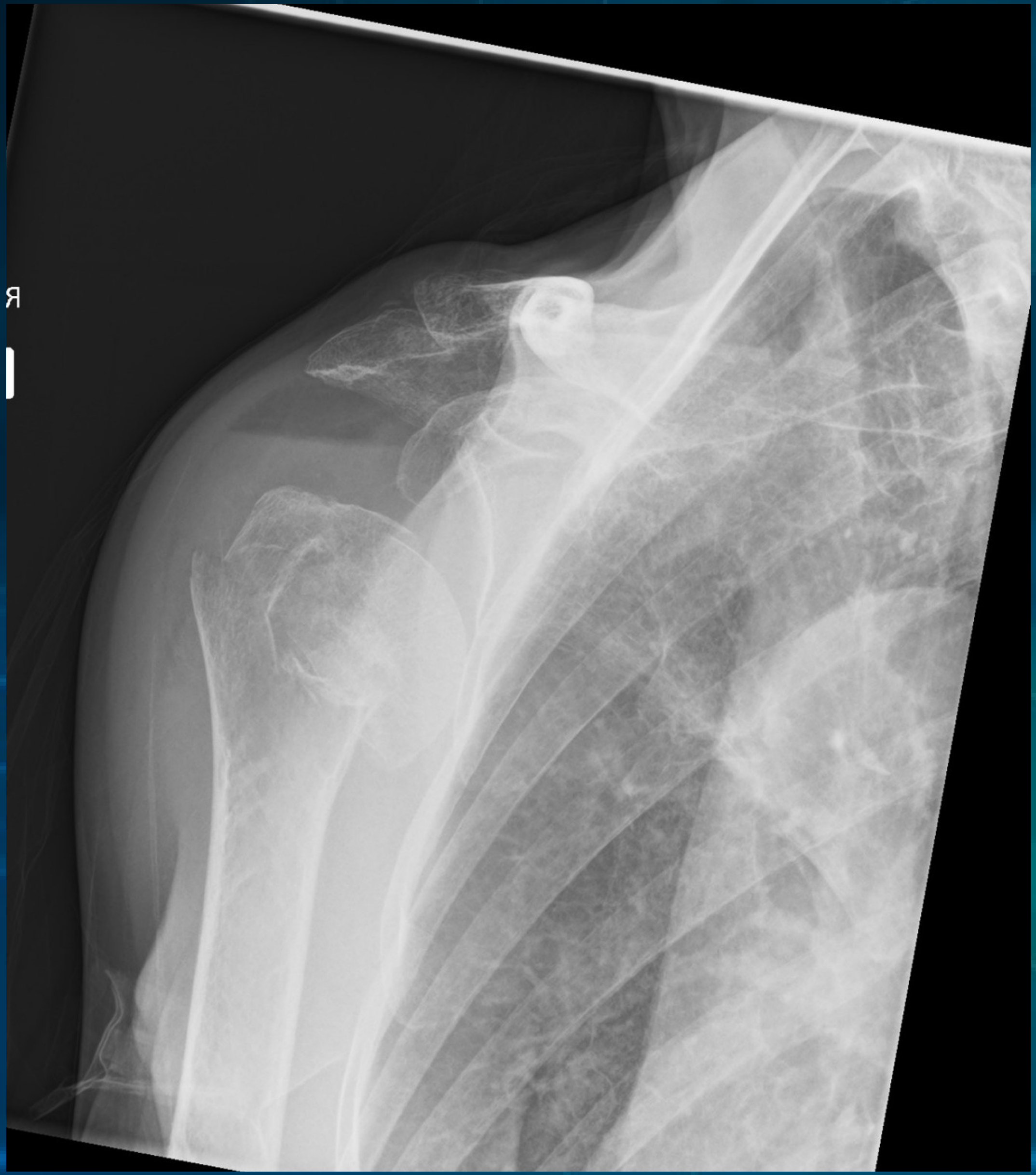
Normal



Effusion

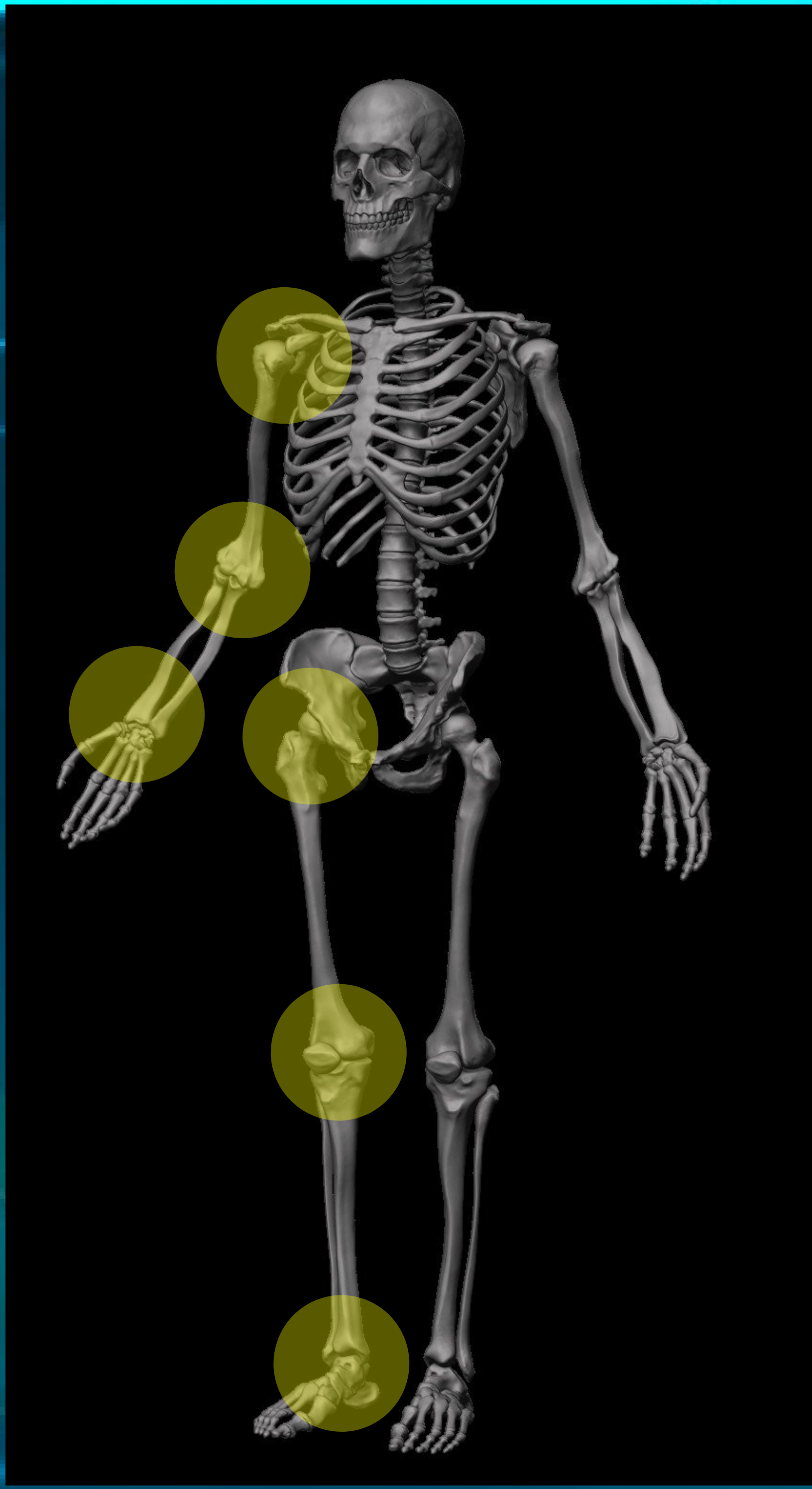
Inferior pseudodislocation of the humeral head due to hemarthrosis

Shoulder effusions

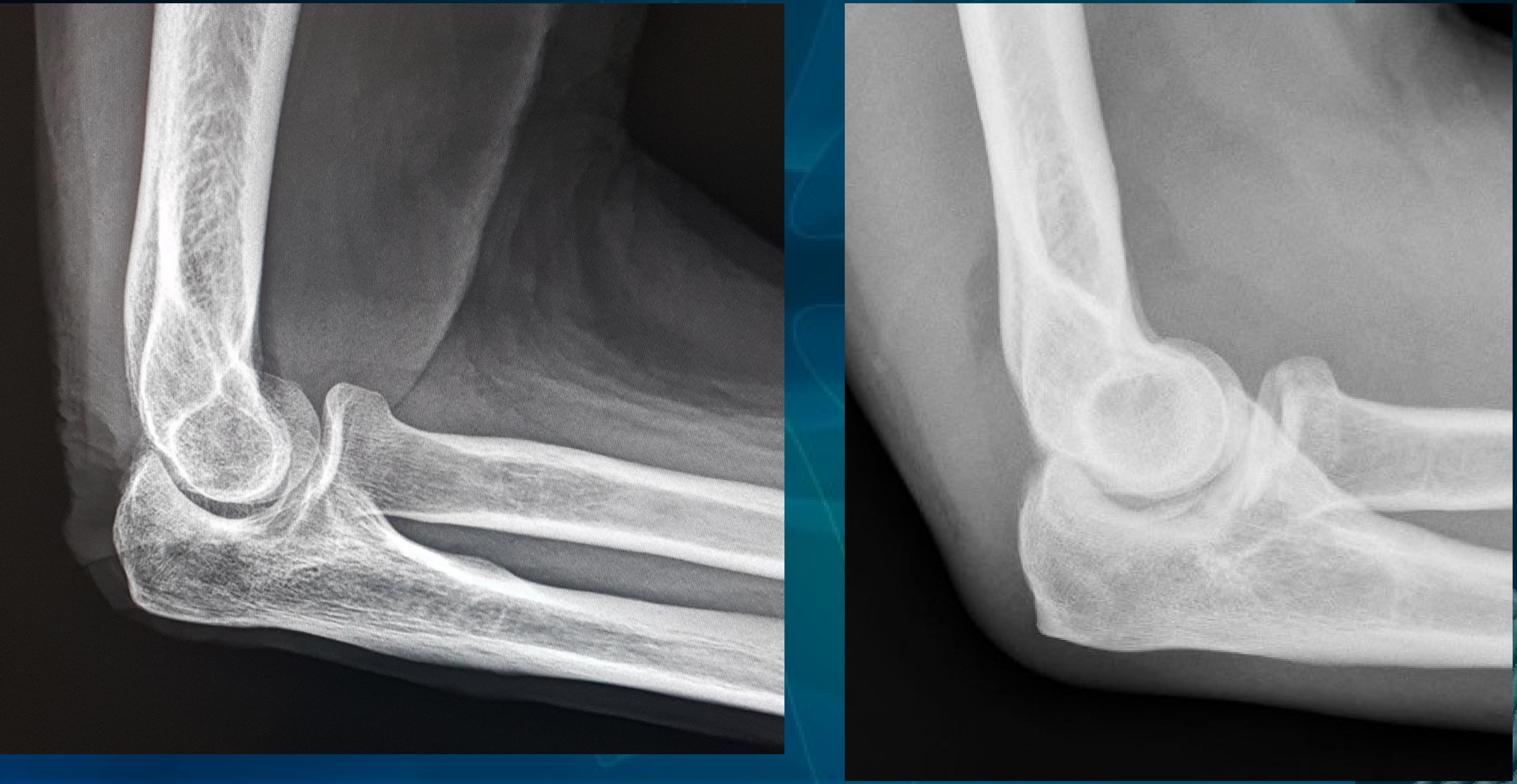


Inferior pseudodislocation of the humeral head due to hemarthrosis

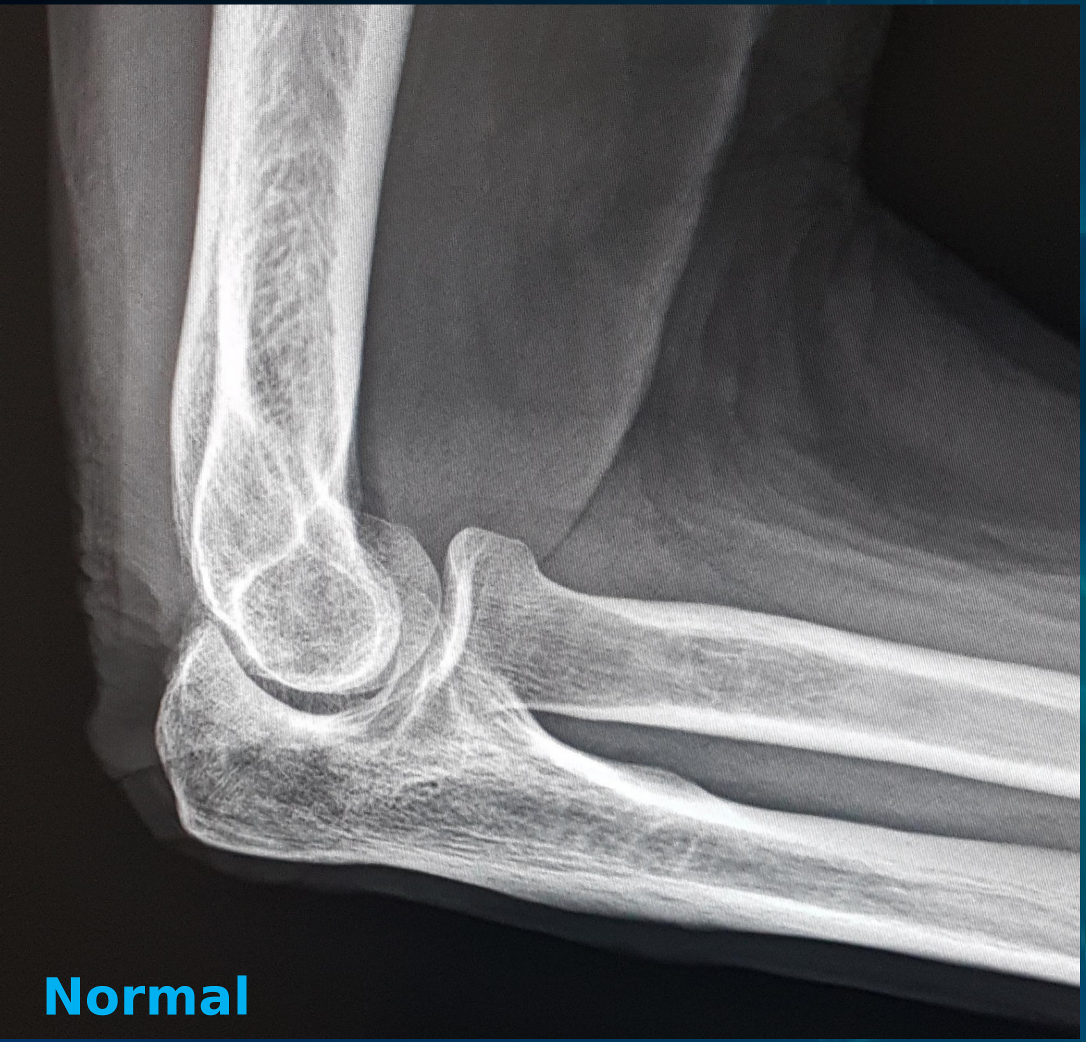
Shoulder effusions

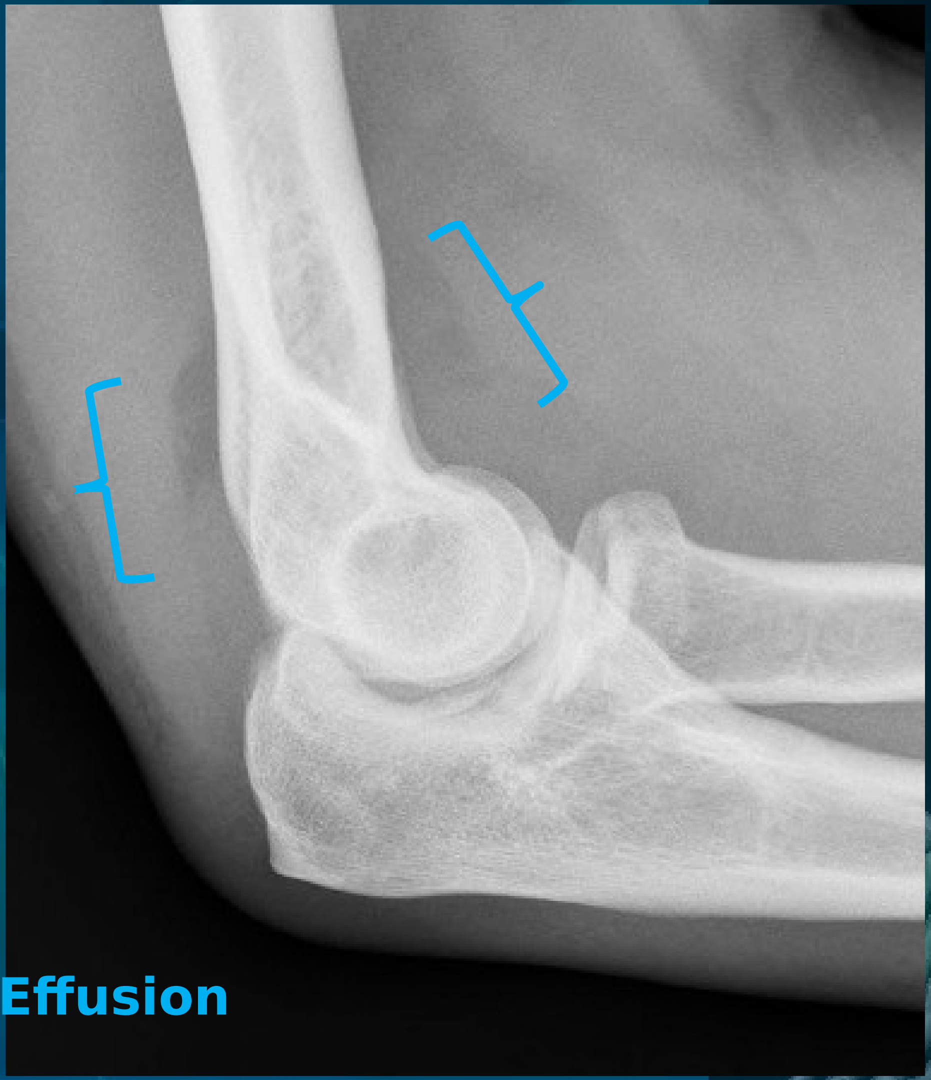


Elbow effusions



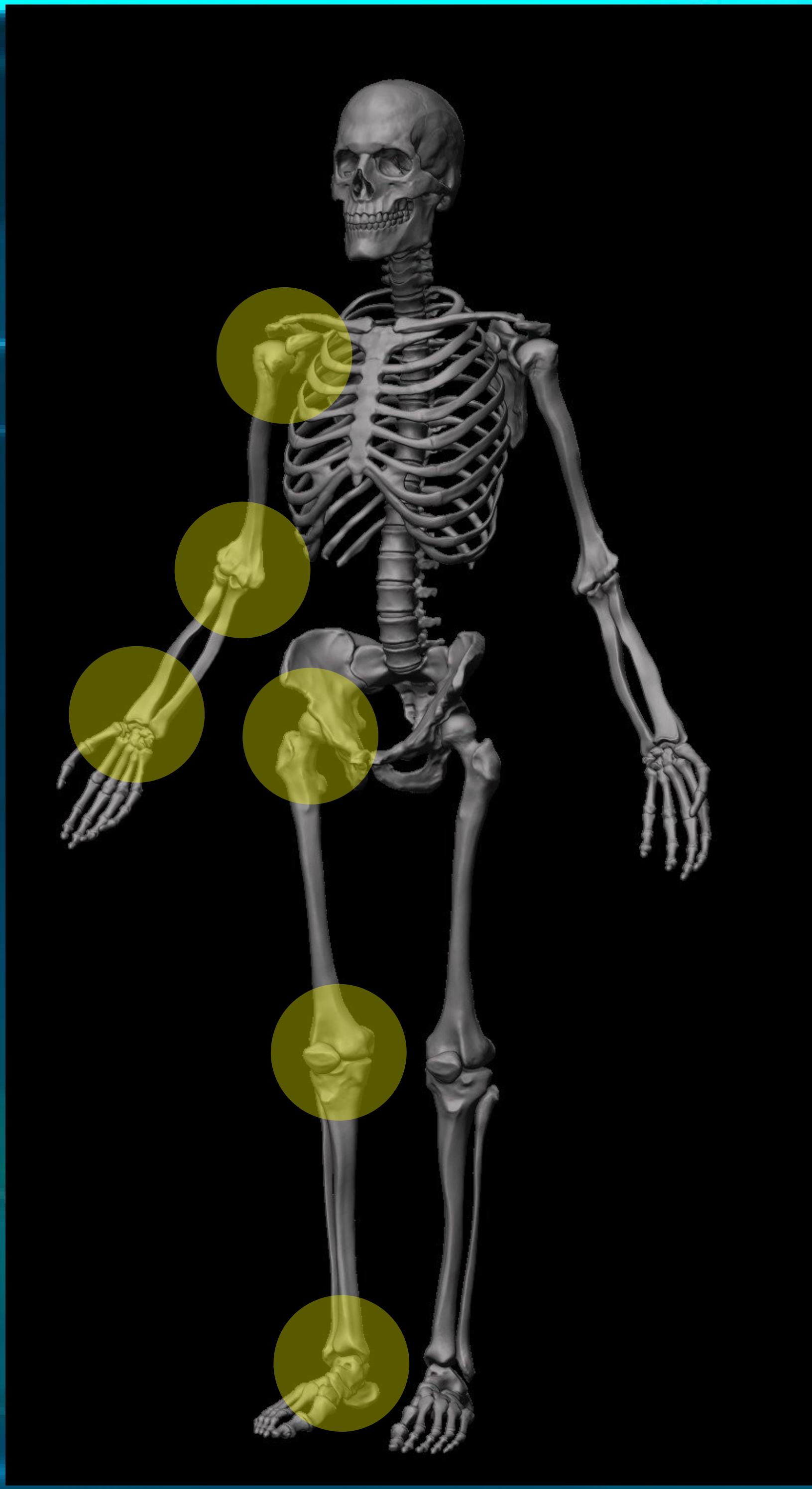
Elbow effusions



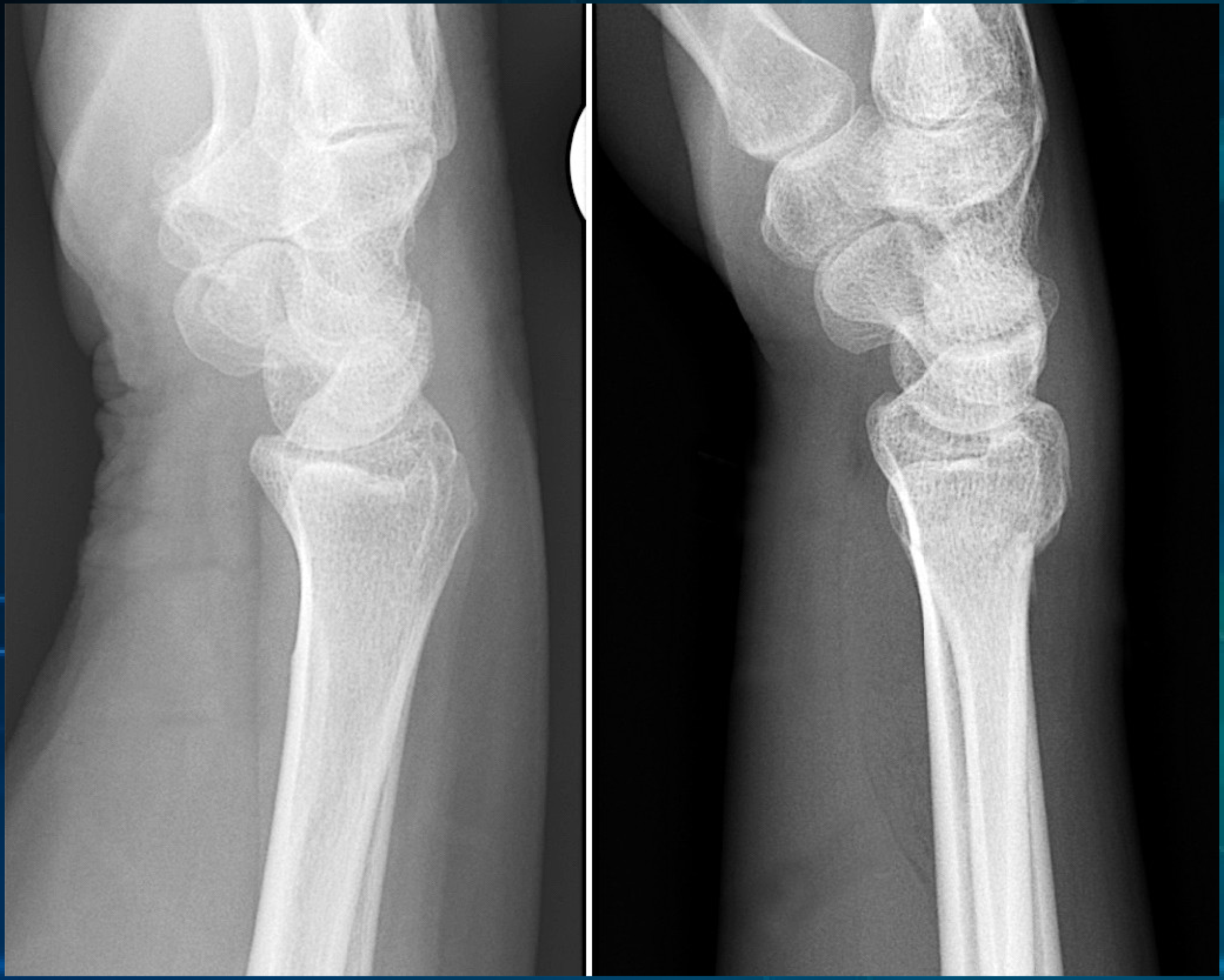


Bulging of the posterior and anterior fat pads due to distention of the elbow joint by effusion or hemarthrosis

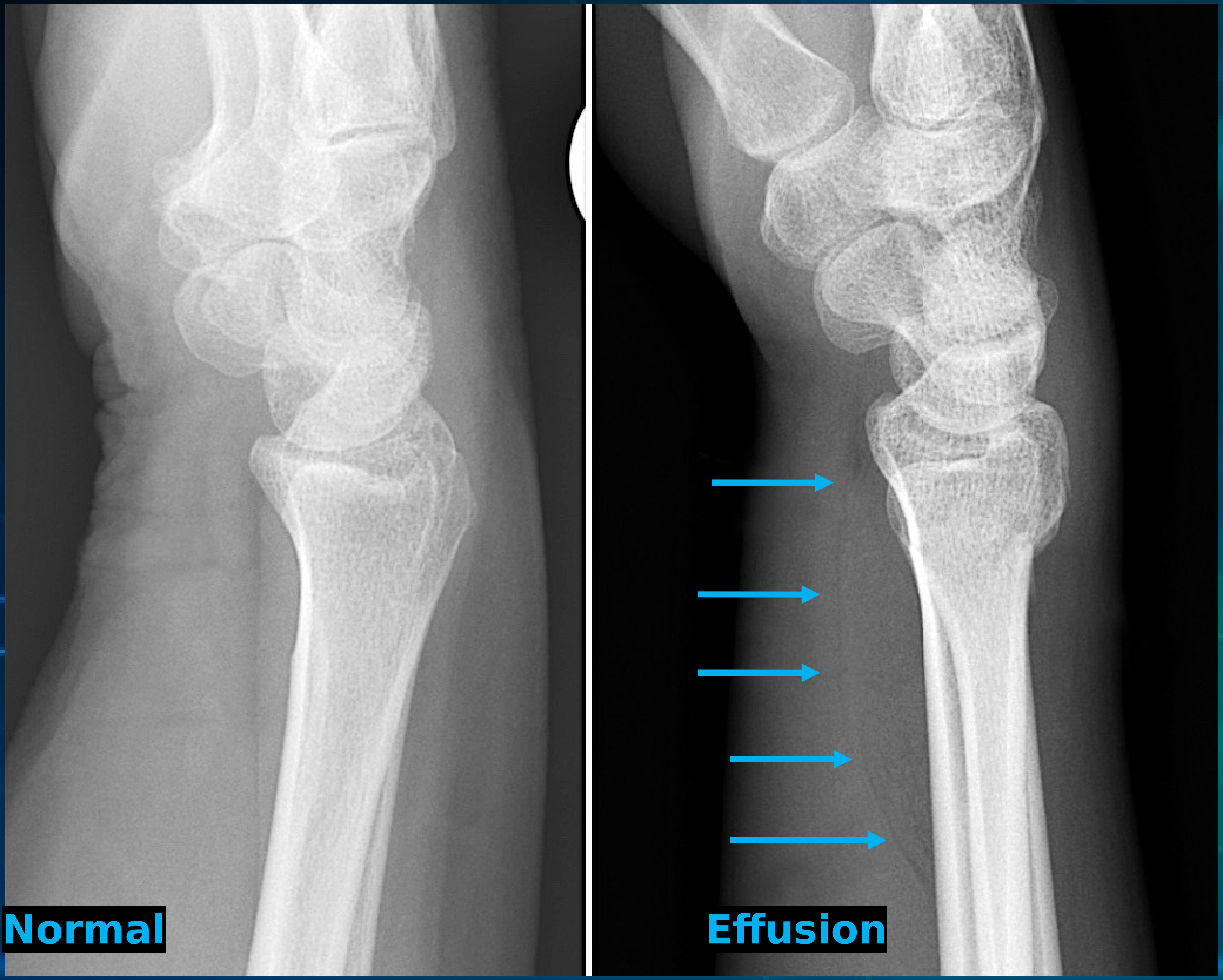
Elbow effusions



wrist effusions

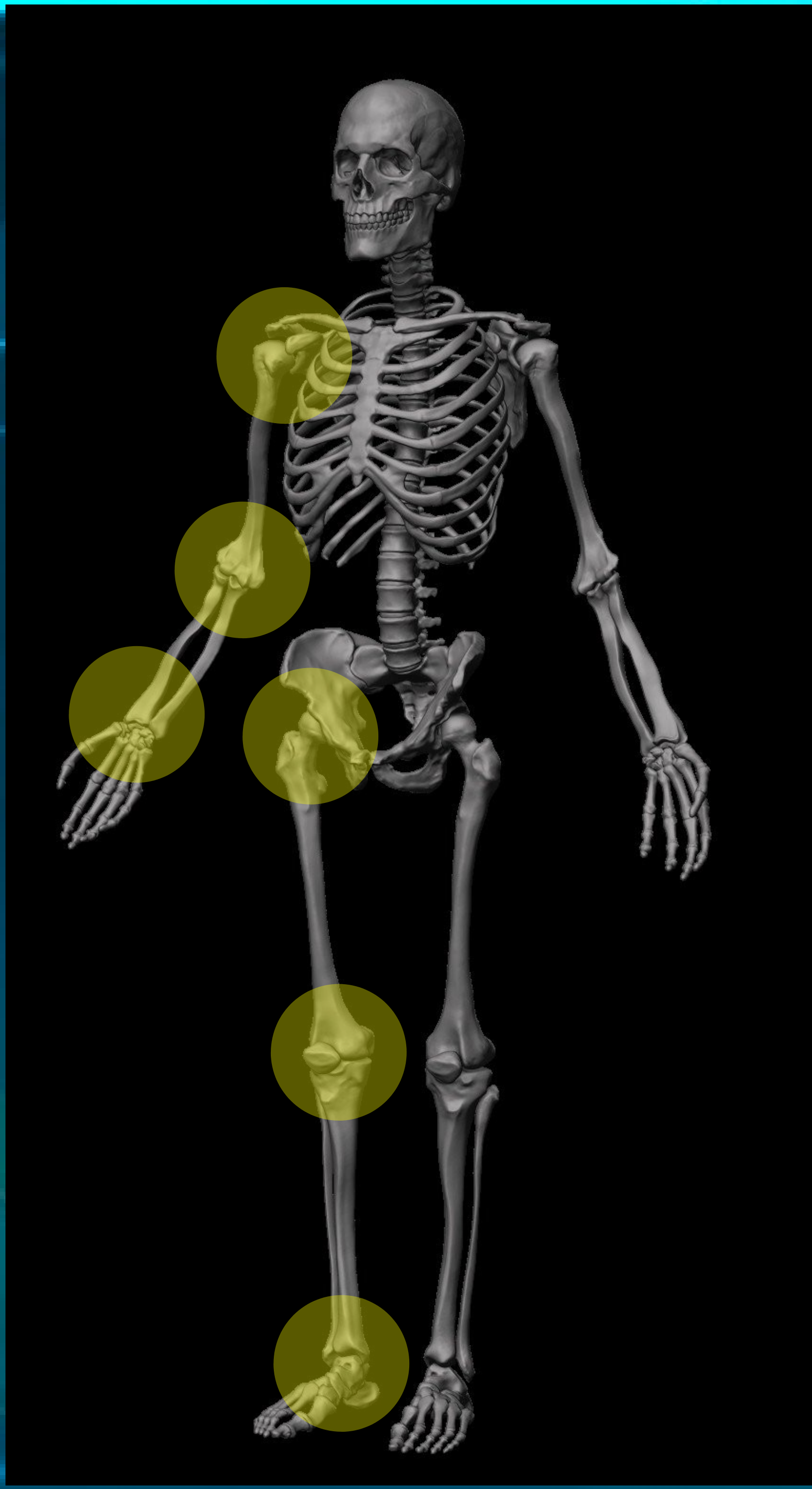


wrist effusions

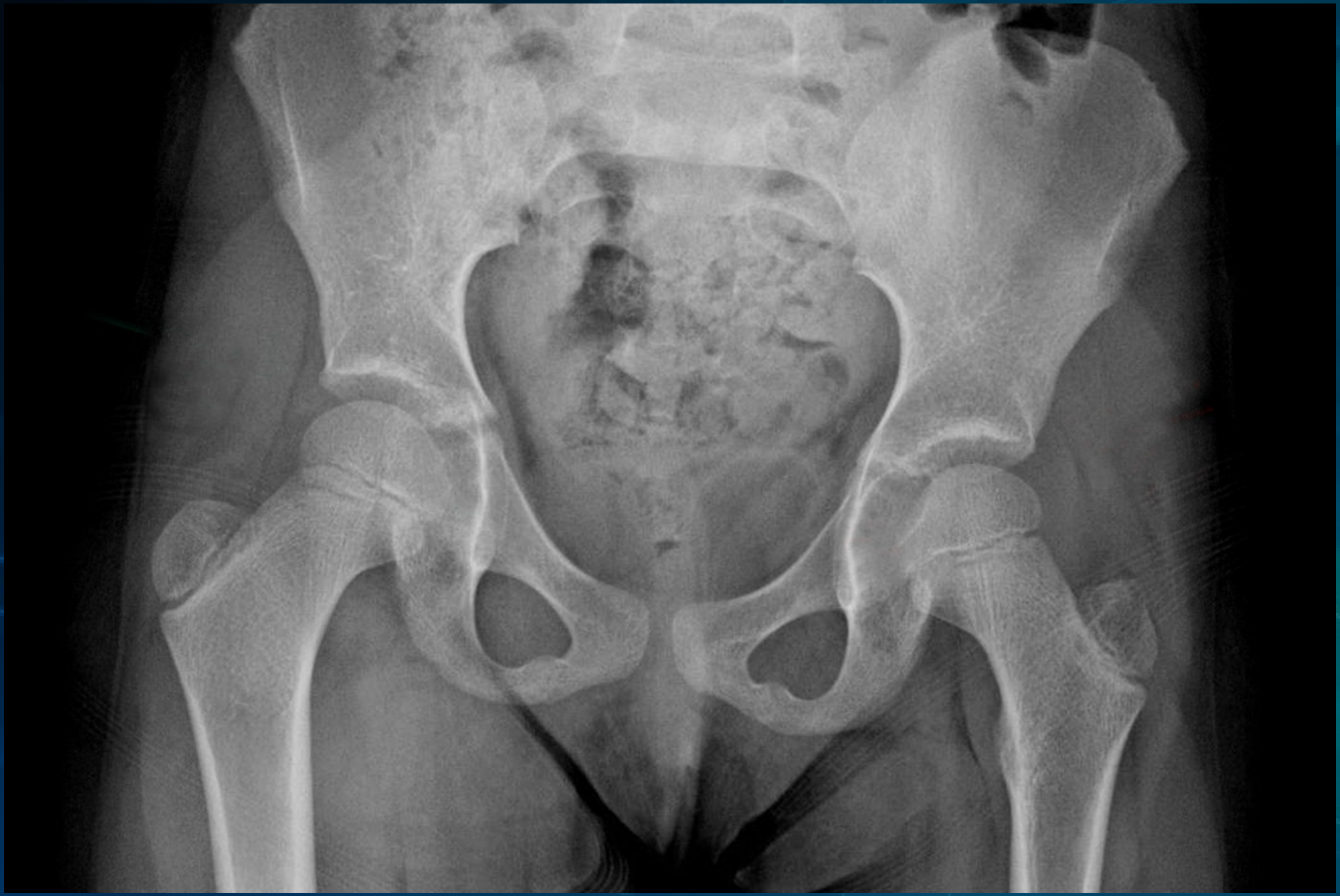

Normal
Effusion

Bulging of the pronator fat pad due to edema and hematoma from distal radius fracture

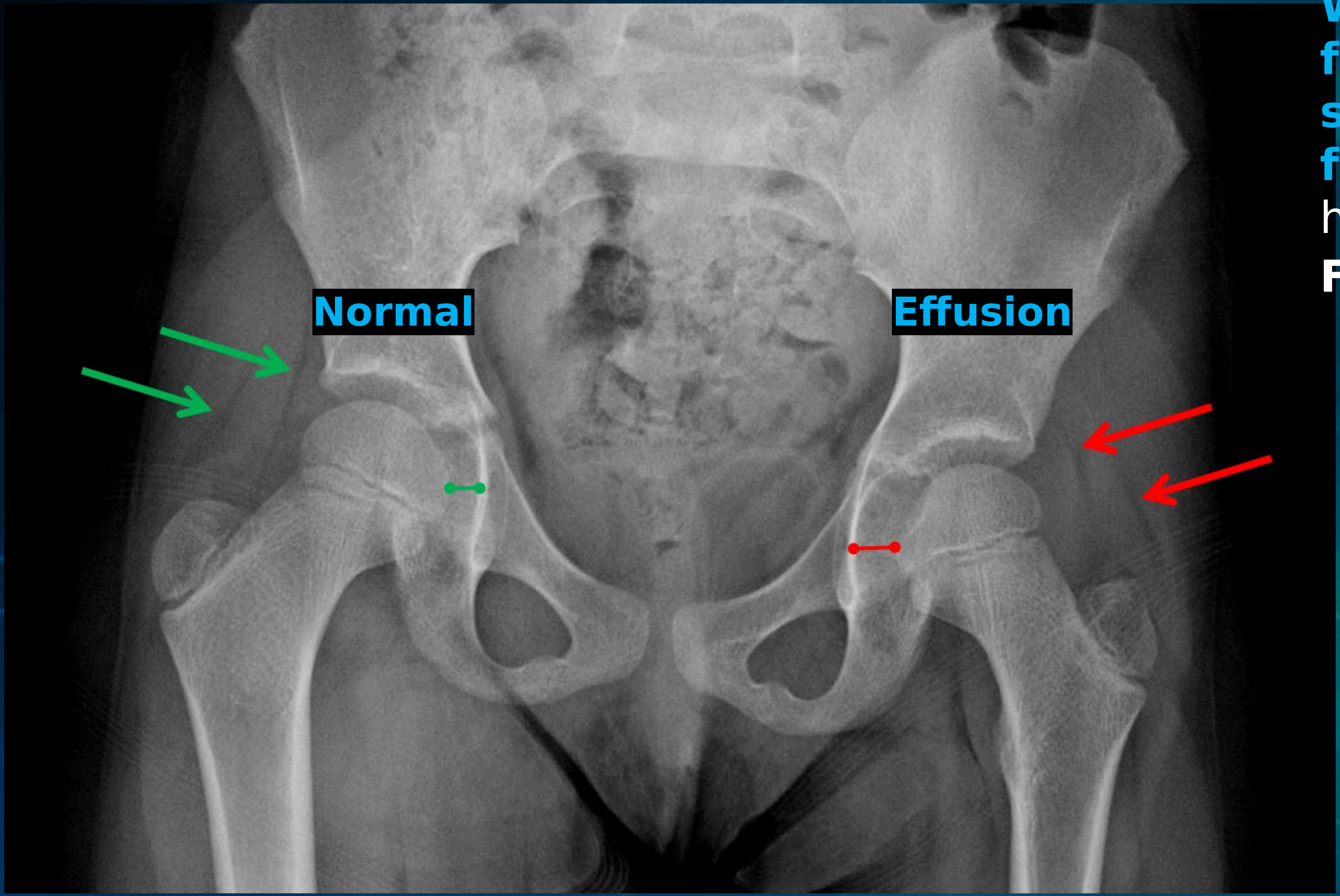
wrist effusions



hip effusions



hip effusions



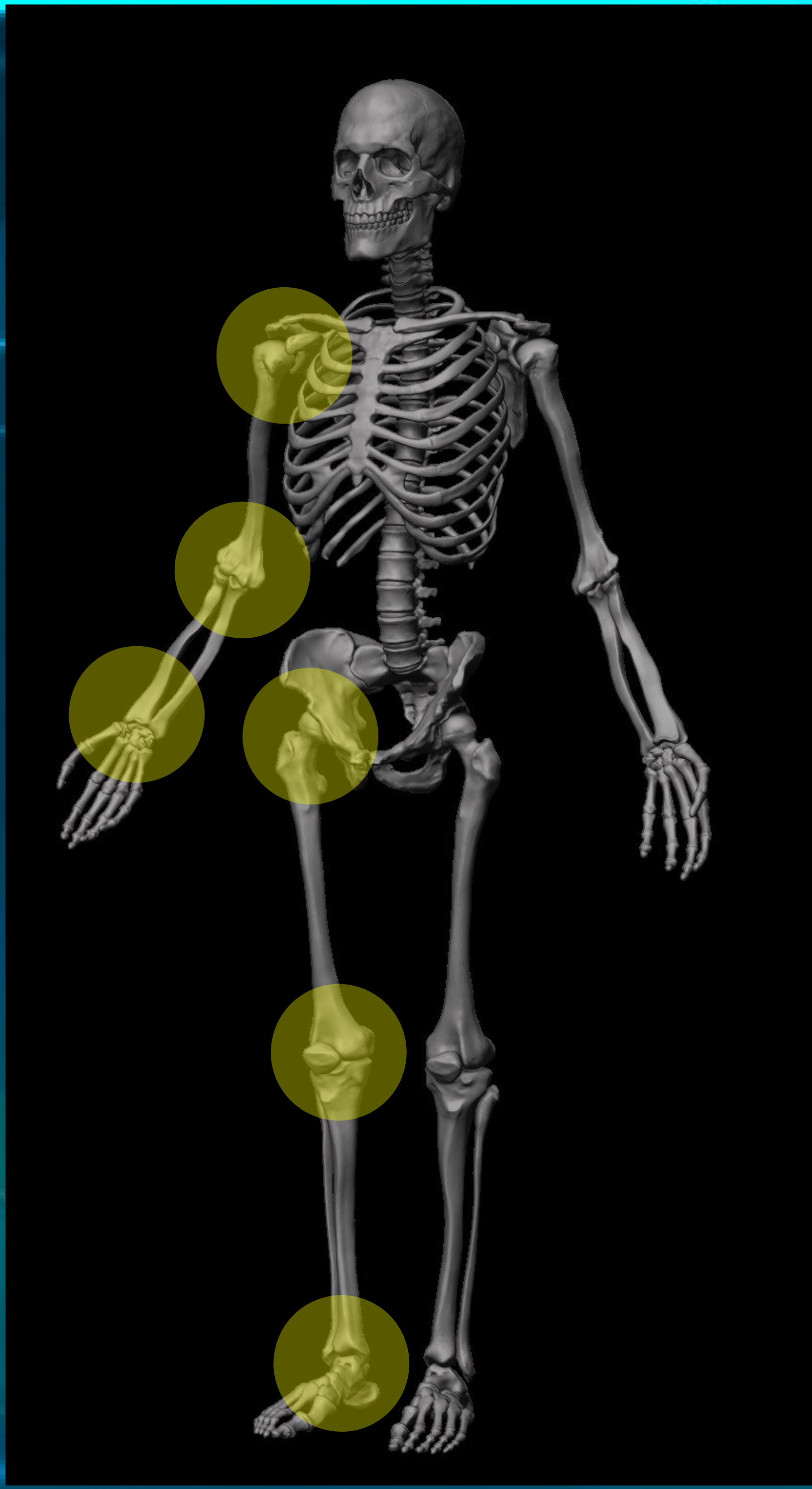
Widening of the femoracetabular joint space **and** **bulging of the femoral fat pads** due to hip effusion

For example, due to:

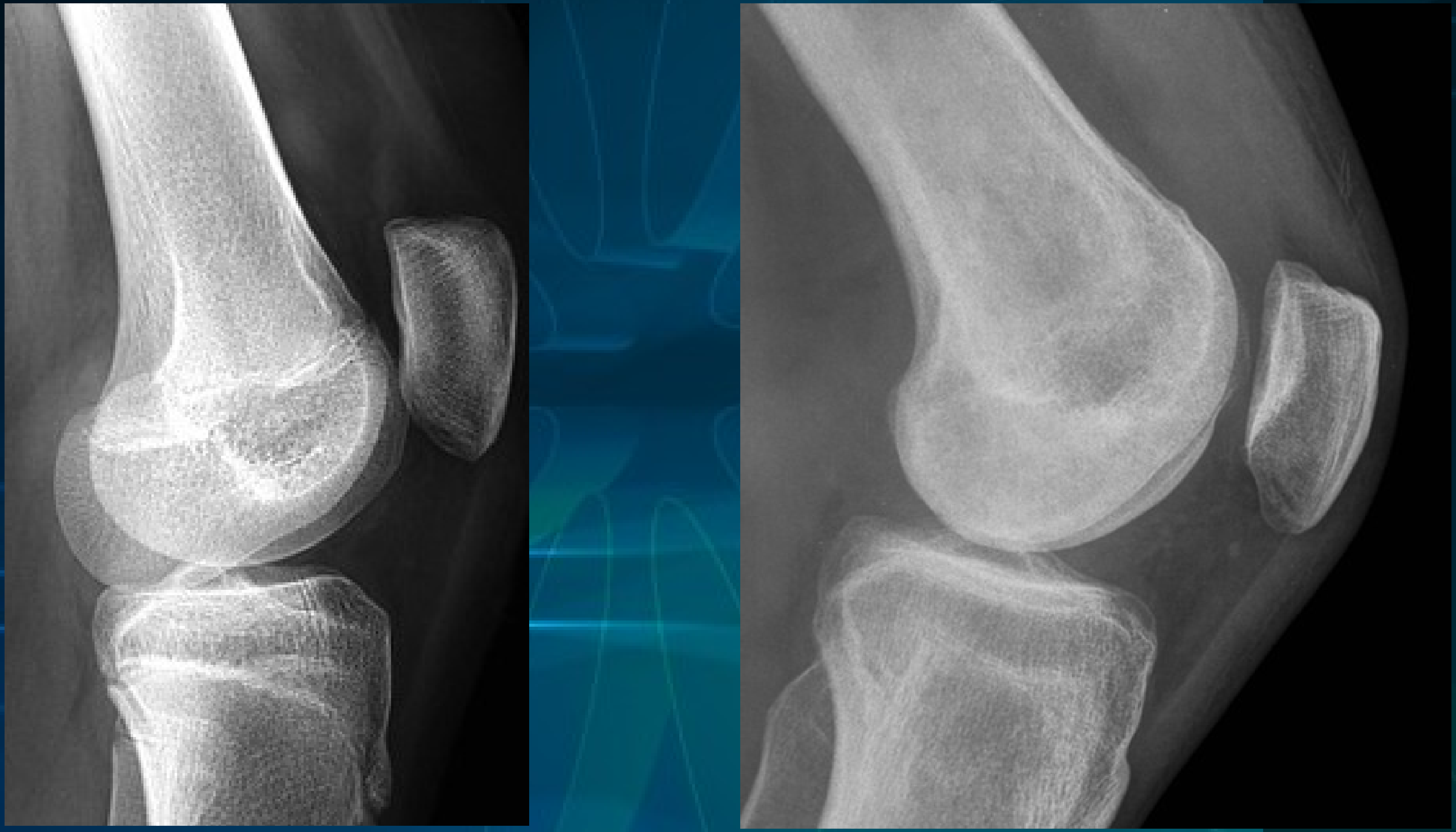
Transient synovitis

Septic arthritis

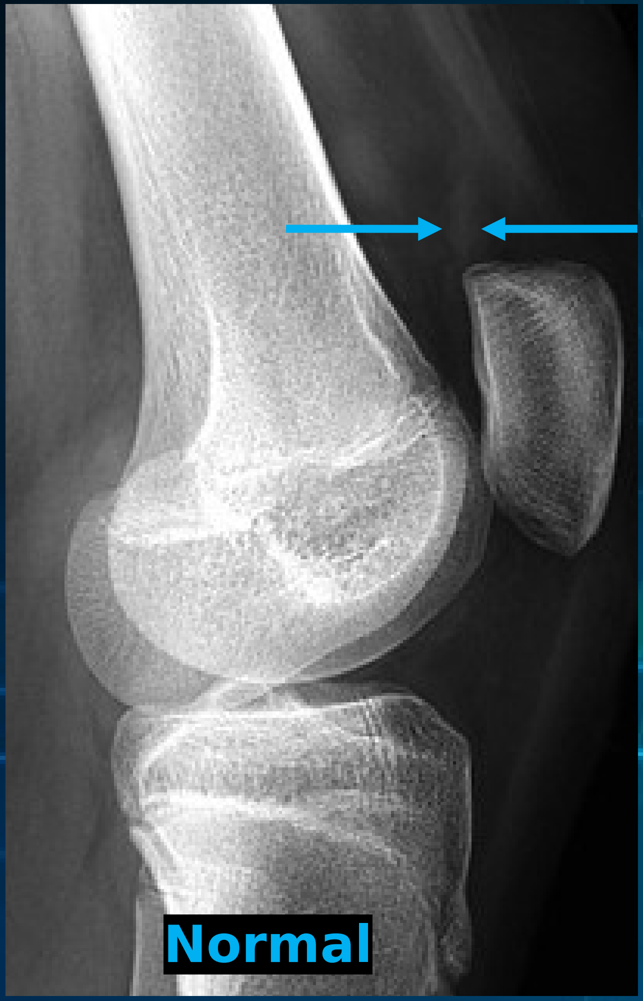
hip effusions

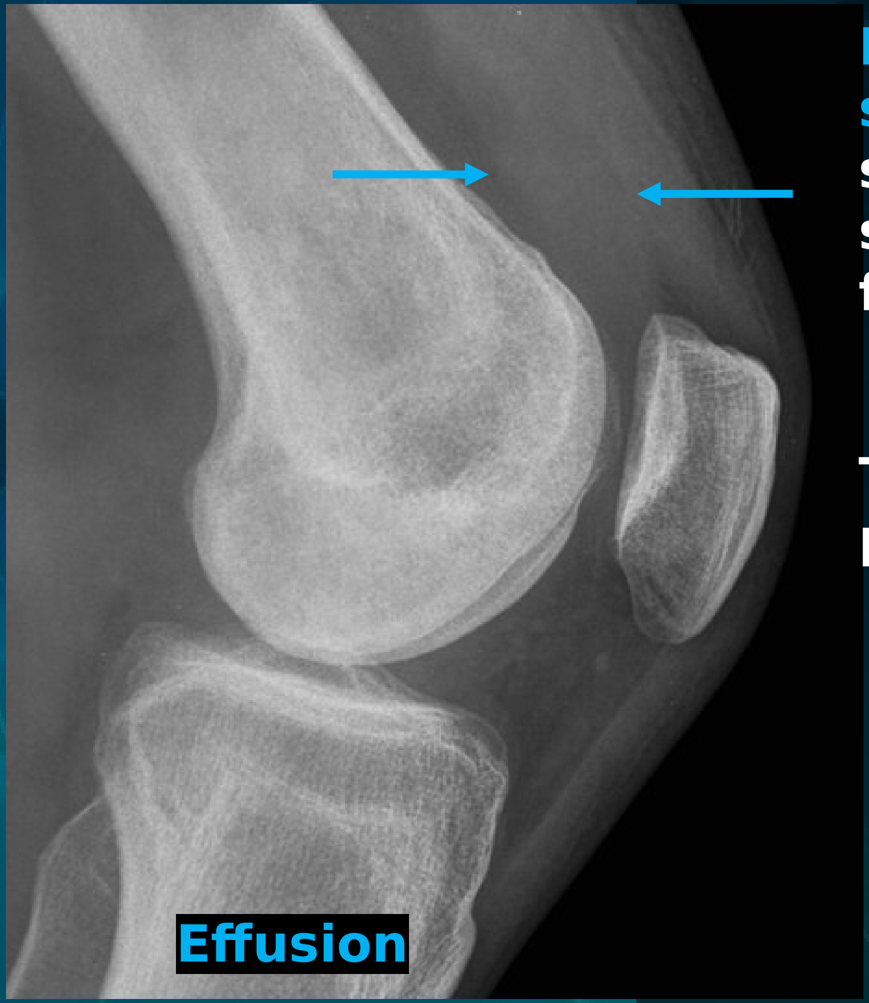


Knee effusions



Knee effusions

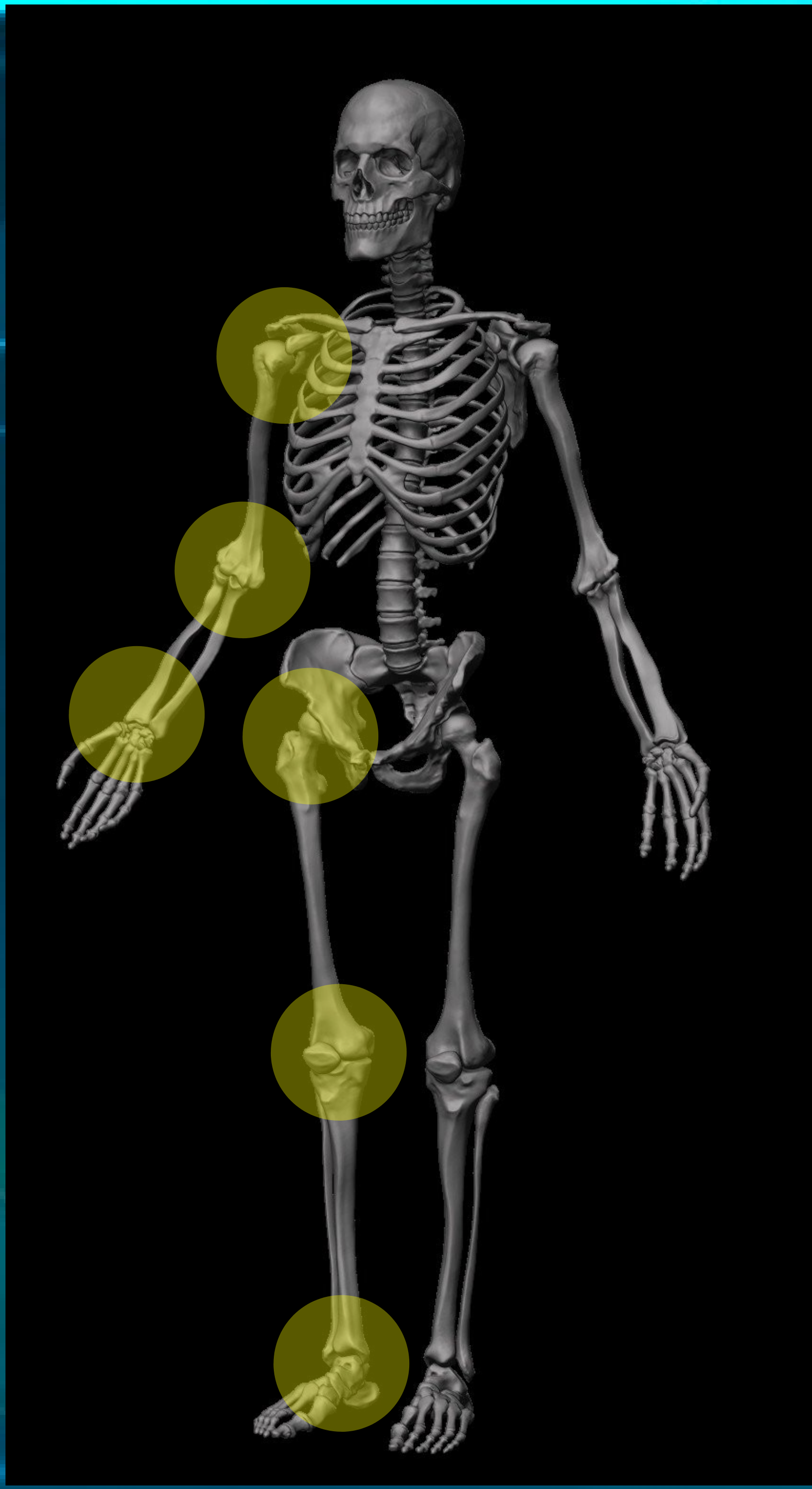




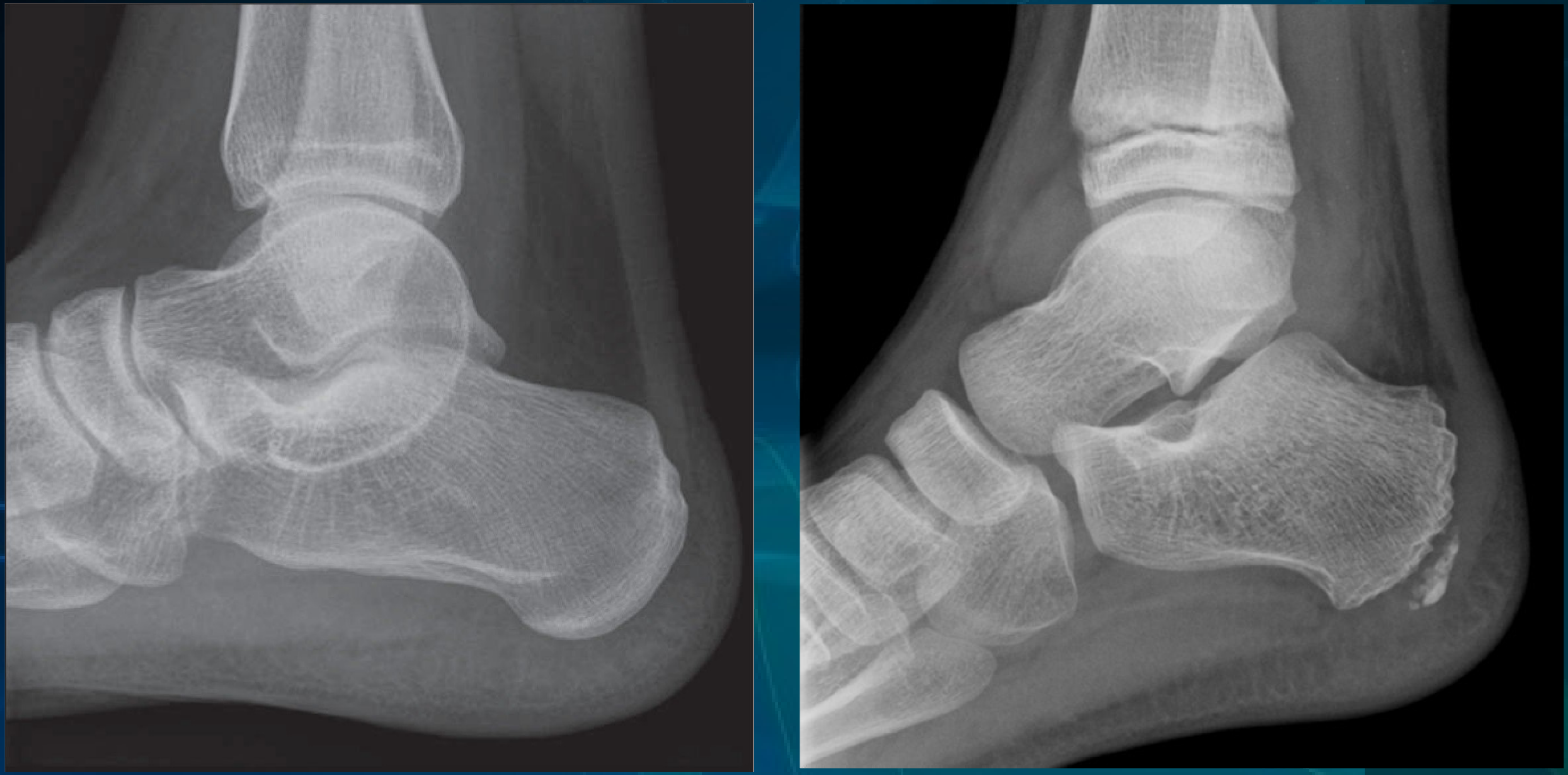
Distention of the suprapatellar pouch, splaying the suprapatellar and pre-femoral fat pads

The normal suprapatellar pouch is < 4 mm

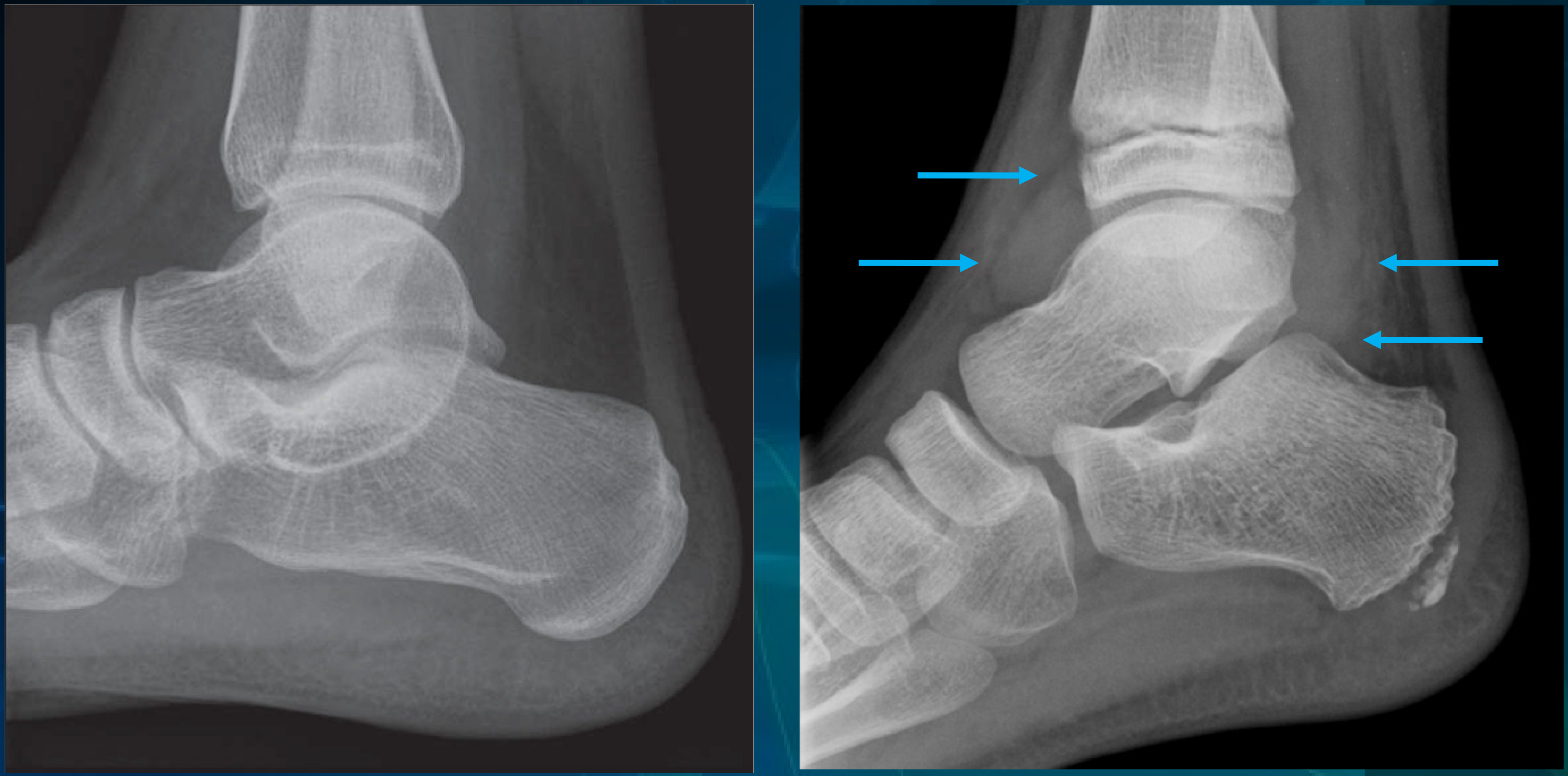
Knee effusions



ankle effusions



ankle effusions



Bulging of the anterior and posterior recesses of the tibiotalar joint

Thank You